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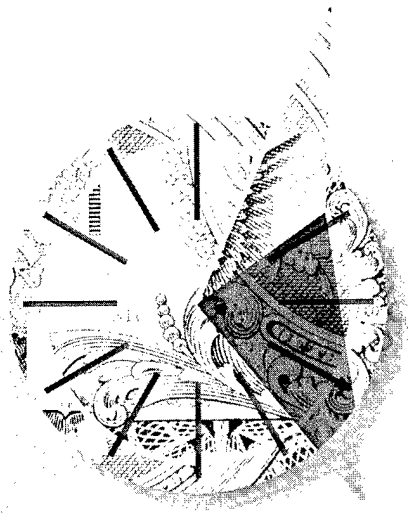
Long-Term Budgetary Pressures and Policy Options



A REPORT TO THE SENATE AND
HOUSE COMMITTEES ON THE BUDGET

MARCH 1997

LONG-TERM BUDGETARY PRESSURES AND POLICY OPTIONS

The Congress of the United States
Congressional Budget Office

NOTES

Unless otherwise indicated, all years are calendar years.

Numbers in the text and tables may not add to totals because of rounding.

National income and product accounts (NIPA) data for 1996 are consistent with CBO's economic forecast presented in *The Economic and Budget Outlook: Fiscal Years 1998-2007* (January 1997). That forecast was prepared before the advance estimates of gross domestic product and its components for 1996 were released on January 31, 1997.

Preface

The 10-year time frame used by the Congressional Budget Office (CBO) for preparing budget projections is not sufficient to show the dramatic effects on the federal budget of the projected long-term demographic changes in the U.S. population. Last year, CBO included a special chapter in its annual report—*The Economic and Budget Outlook: Fiscal Years 1997-2006* (May 1996)—that focused on the outlook beyond the 10-year horizon. In addition, last year's report on *Reducing the Deficit: Spending and Revenue Options* (August 1996) included a final chapter on long-term options for containing spending on Social Security and Medicare.

The current report updates and extends those analyses to take into account the improvement in the near-term budgetary outlook and other developments. It also examines the potential long-term budgetary impacts of enacting the various Social Security and Medicare options. In accordance with CBO's mandate to provide objective and impartial analysis, the report contains no recommendations.

The analysis of the long-term implications of current fiscal policy presented in Chapter 1 was carried out by Douglas Hamilton, Benjamin Page, and John Sturrock of CBO's Macroeconomic Analysis Division, under the direction of Robert Dennis. Douglas Hamilton wrote the chapter, and Benjamin Page carried out the economic modeling. Kenneth Fears and Timothy Lasocki provided research assistance. The macroeconomic model was reviewed by CBO's Panel of Economic Advisers. CBO also received comments on the model from Herbert Stein. Despite the considerable assistance afforded by those outside advisers, the analysis in this report does not necessarily reflect their views.

Ralph Smith and Sandra Christensen of the Health and Human Resources Division prepared the analysis in Chapter 2 of options for slowing the growth in spending for Social Security and Medicare, respectively, under the direction of Joseph Antos. Julia Matson provided research assistance. The long-term Social Security estimates in Chapter 2 were made by the Social Security Administration, Office of the Actuary. CBO developed the long-term Medicare estimates using information provided by the Health Care Financing Administration, Office of the Actuary.

Paul L. Houts edited the report, and Marlies Dunson provided editorial assistance. Dorothy Kornegay, Linda Lewis, and Ronald Moore produced drafts of the report. Kathryn Quattrone and Jill Sands prepared the report for publication.

June E. O'Neill
Director

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Summary

The federal deficit has dropped substantially from its level in the early 1990s. As a share of gross domestic product (GDP), it has fallen to a 22-year low, although it is still well above the average for the 1950s and 1960s. But this year's budgetary news should not lull people into complacency: the retirement of the large baby-boom generation is just over the horizon. That retirement will drive up the costs of three important government programs: Social Security (which provides income to retired and disabled workers, their spouses, and others), Medicare (which helps to pay the costs of medical care for elderly and disabled people), and Medicaid (which helps to finance medical care for certain low-income people, including the elderly). In addition, continued expansion in the volume and intensity of services that Medicare and Medicaid finance will put upward pressure on federal spending for each beneficiary enrolled in those programs. If the budgetary pressure from both demography and health care spending is not relieved by reducing the growth of expenditures or increasing taxes, deficits will mount and seriously erode future economic growth.

The long-term deficit problem could be resolved by a combination of approaches involving reductions in future spending commitments for Social Security, Medicare, and other programs, together with increases in revenues and balancing the budget by 2002. This report focuses on options for slowing the growth in future Social Security and Medicare spending because those programs are so large and so clearly affected by the aging of the population. The options presented in Chapter 2 illustrate how difficult it would be to keep expenditures in those programs from growing as a share of GDP in the face of the projected increase in the number of people eligible for them. The analysis also shows, however, that doing so would confer substantial gains on the economy.

The Congressional Budget Office (CBO) first reported the results of its long-term analysis in Chapter 4 of *The Economic and Budget Outlook: Fiscal Years 1997-2006,* published last May. Since then, CBO has revised its medium-term (10-year) budget projections in light of the lower-than-projected deficit for fiscal year 1996 and other recent developments. Not surprisingly, the improved short-term budgetary outlook brightens the long-term picture. CBO also made some technical revisions in its long-term model. In total, the changes since last May delay any serious trouble for about seven to 10 years. But serious long-term imbalances remain in the federal budget, and the qualitative conclusions of CBO's May report stand firm: current budget policy is unsustainable, and attempting to preserve it would severely damage the economy.

The Long-Term Budget Outlook

Some simple demographic facts lie behind concerns about the long-run budgetary situation facing the United States. The country's population is graying. Over the next 35 years, the Social Security Administration estimates that the number of people age 65 and older will double, while the number of people age 20 to 64 will increase by only 20 percent (see Summary Table 1).

Some of the demographic changes reflect the welcome news that people are living longer today. Thanks to improved health care and healthier lifestyles, a growing proportion of the adult population now reaches age 65, and life expectancy at that age has increased by about 15 percent since 1970. When Medicare was created in 1965, the average person was expected at birth to live about 70 years. By 1990, that expected lifespan had risen to 75 years, and by 2010, it is projected to increase to 78.

A second factor behind the demographic changes is the baby boom: the large generation of Americans born between 1946 and 1964 (see Summary Figure 1). In 2008, the oldest baby boomers will turn 62 and thus become eligible to claim early retirement benefits under Social Security. That date will end a period of relatively favorable demographics that began with the retirement of the generation born during the Great Depression and World War II, whose relatively small numbers are now providing a respite to Social Security and other entitlement programs for the elderly.

In addition to straining entitlement programs, the retirement of the baby boomers will also significantly slow the growth of the labor force. The effect of having such a large group of workers leave the labor force will be accentuated since the high birth rate during the baby boom was followed by a markedly lower rate (a baby "bust"). As a result, the growth of the labor force will slow to a crawl from 2010 through 2020 and reach almost a standstill between 2020 and 2030. That projection stands in stark contrast to the 2 percent annual growth that the labor force experienced from 1960 to 1989, and even to the 1 percent average annual growth rate expected over the next 10 years.

Although any demographic projection is inherently uncertain, the basic message is unambiguous: with more retirees and little growth in the number of workers, the ratio of retired people to workers (the so-called elderly dependency ratio) will increase significantly in coming decades. In 1960, there were about 20 Social Security beneficiaries for every 100 workers. That ratio has jumped to about 30 Social Security beneficiaries for

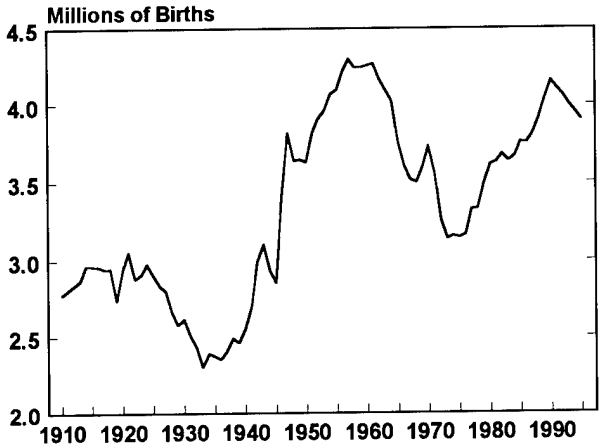
Summary Table 1.
Population of the United States by Age, Calendar Years 1950-2050

Age Group	1950	1970	1990	1995	Projected 2010	Projected 2030	Projected 2050
			In Millions of People				
Less than 20 Years Old	54	81	75	79	82	83	84
20 to 64 Years Old	93	113	153	160	185	192	201
65 and Older	13	21	32	34	40	68	75
Total	159	215	260	273	307	342	359
			As a Percentage of the Total Population				
Less than 20 Years Old	34	38	29	29	27	24	23
20 to 64 Years Old	58	53	59	59	60	56	56
65 and Older	8	10	12	13	13	20	21
Total	100	100	100	100	100	100	100

SOURCE: Congressional Budget Office based on data from the Social Security Administration of the population as of July 1 of each year.

NOTE: Numbers may not add to totals because of rounding.

Summary Figure 1.
Number of Births in the United States, 1910-1995



SOURCE: Congressional Budget Office using data from the National Center for Health Statistics.

every 100 workers, and it is expected to swell to about 50 beneficiaries per 100 workers by 2030.

The Budgetary Implications of an Aging Population and Growing Health Costs

Both the outlay and revenue sides of the federal budget will be increasingly strained after 2008. Revenues will be squeezed as the number of people working—and the economy—grows more slowly. At the same time, outlays for government programs that aid the elderly (Social Security, Medicare, and Medicaid) will burgeon as the number of people eligible to receive benefits from those programs shoots up. In fiscal year 1996, federal spending for the three programs reached about $630 billion, or 8.4 percent of GDP. But by 2030, when most baby boomers will have retired, federal spending for those programs is projected to consume 16 percent of GDP—about twice today's percentage.

The projected increase in Social Security spending as a share of GDP results entirely from the surging number of people eligible for benefits, whereas the growth in Medicare and Medicaid stems not only from those factors, but also from an increase in spending per beneficiary. Unlike Social Security, whose real spending for each enrollee is set legislatively by a formula that depends on the enrollee's history of wages, Medicare and Medicaid are open-ended entitlement programs that place no dollar limits on the benefits provided to each enrollee. Over most of the programs' histories, benefits per enrollee have risen rapidly.

Indeed, the growth in per-enrollee costs is the main reason that federal spending for Medicare and Medicaid—now about three-quarters of that for Social Security—is projected to overtake Social Security spending within 10 years. Although outlays for Medicare and Medicaid in fiscal year 1996 were lower than anticipated, the Congressional Budget Office expects that growth to pick up again, albeit at a slower pace than before. The growth in spending per beneficiary reflects an increase in the volume and intensity of services provided through Medicare and Medicaid. Those factors will continue to make the burden of federal health care costs in the years ahead a much heavier one. Thus, even if the elderly dependency ratio did not climb with the retirement of the baby boomers, federal health care spending would still be projected to rise faster than gross domestic product and would put increasing pressure on the budget.

Long-Term Projections of the Budget and Economy

What would happen to deficits and the economy if U.S. budget policy did not change in the face of the impending retirement of the baby boomers? CBO has tried to answer that hypothetical question by projecting future government revenues and expenditures under various economic and demographic assumptions and by examining their impact on the federal deficit and economy.

Budgetary and Economic Assumptions. For the first 10 years of the long-term projection, CBO followed its baseline projections published in the *Economic and Budget Outlook: Fiscal Years 1998-2007.* Beyond 2007, however, CBO did not use its usual methodology in preparing those baseline projections.

For one thing, the concept of a current-policy baseline is somewhat ambiguous even for 10-year projections; over a much longer period, that approach could produce misleading results. Instead, CBO simply as-

sumed that spending would grow according to some simple rules for most categories of the budget. CBO also adopted the official long-term projections of outlays for Social Security and Medicare made by the trustees of those programs. It then adjusted the numbers for any differences between its own economic assumptions and those of the trustees. CBO similarly followed Medicare's trustees in assuming that federal health costs per beneficiary would slow significantly over the next two decades. After 2020, CBO assumed that those costs would grow no faster than the overall wage rate—an assumption that may be considered optimistic. Tax revenues were assumed to remain a roughly stable share of GDP.

CBO used two alternative assumptions for the growth of discretionary spending after 2007. One alternative assumed that discretionary outlays would increase with inflation; the other assumed that they would increase with the economy (inflation plus real economic growth). Discretionary spending includes outlays for national defense, general science, space, and technology, natural resources and the environment, commerce and housing, transportation and other infrastructure, community and regional development, and education and training.

Assuming that discretionary spending would be constrained to grow with inflation is optimistic. It does not account for the demands that would be placed on those accounts from a growing population and rising real incomes per capita. For that reason, CBO primarily focuses on the simulations in which discretionary spending grows with the economy after 2007. Nonetheless, current policy is unsustainable even under an optimistic assumption about discretionary spending.

Because CBO's analysis focuses on macroeconomic relationships, its long-term projections use the budget categories defined by the national income and product accounts (NIPA), not the categories of the unified budget, which CBO focuses on in its annual reports.

To assess the effect of long-run budget policies, CBO also had to make assumptions about fundamental forces in the economy over the coming decades. Because the growth of the labor force is expected to slow, CBO's projections assume that the annual growth in the total number of hours worked would drop to virtually zero by 2020. The projections also depend on the growth of the capital stock, which is affected by the federal budget deficit, and the growth of total factor productivity, which is the growth of output that cannot be accounted for by the growth of capital and labor. Total factor productivity is assumed to grow at 1 percent a year after 2007.

To illustrate the effect of rising deficits on the economy, CBO prepared two sets of simulations: one with the economic interactions between the budget and the economy, and one without those feedbacks. In the simulations without economic feedbacks, CBO projected gross domestic product assuming that the growth of the labor supply slows with the retirement of the baby boomers, capital investment is not affected by the deficit but investment simply grows with the overall economy, and total factor productivity rises at historical rates.

Because great uncertainty surrounds both the budgetary and economic assumptions, CBO looked at several different scenarios and tested the sensitivity of its results to changes in the assumptions. In particular, it ran its economic model using a large number of alternative assumptions about population and productivity, reflecting the historical variation of those two key variables. Moreover, in a deliberate attempt to be somewhat optimistic about the effects of deficits on the economy, CBO assumed that private savers would offset half of the rise in the deficit and that foreign investors would continue to lend to the United States despite the increasing riskiness of holding U.S. assets as federal debt escalated. Those two assumptions delay the onset of serious economic problems from growing federal debt.

Nonetheless, the specific numbers in CBO's projections remain inherently uncertain. Even modest changes in the assumptions will affect the projections of the deficit and the debt. Because of such uncertainties, CBO recommends that one should not focus on the predictions about the specific level of the deficit or debt 30 years from now. Instead, the important message of CBO's simulations is the general trend in those fiscal variables.

Simulations Without Economic Feedbacks. Even if one does not consider the interaction between the budget and the economy, the outlook for the deficit in the

Summary Table 2.
Projections of Federal Receipts and Expenditures, Using the Assumptions of the Base Scenario Without Economic Feedbacks, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
Discretionary Spending Grows with Inflation After 2007											
NIPA Receipts	21	20	20	20	20	20	20	20	20	20	20
NIPA Expenditures											
Federal consumption expenditures	6	5	5	4	4	4	4	3	3	3	3
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	6	6	6	6
Medicare	2	3	4	4	5	6	7	7	8	8	8
Medicaid	1	1	2	2	2	2	2	3	3	3	3
Other	5	.5	4	4	4	4	4	4	4	4	3
Net interest	3	3	3	3	3	3	4	5	6	7	9
Total	22	22	22	23	24	25	27	28	30	31	33
NIPA Deficit	2	2	2	3	4	5	7	8	10	11	13
Debt Held by the Public	50	48	48	50	55	65	80	100	122	145	193
Discretionary Spending Grows with the Economy After 2007											
NIPA Receipts	21	20	20	20	20	20	20	20	20	20	20
NIPA Expenditures											
Federal consumption expenditures	6	5	5	5	5	5	5	5	5	5	5
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	6	6	6	6
Medicare	2	3	4	4	5	6	7	7	8	8	8
Medicaid	1	1	2	2	2	2	2	3	3	3	3
Other	5	5	4	4	4	4	4	4	4	4	4
Net interest	3	3	3	3	3	4	5	6	8	9	12
Total	22	22	22	23	25	27	29	31	33	35	39
NIPA Deficit	2	2	2	3	5	7	9	11	13	15	18
Debt Held by the Public	50	48	48	50	59	75	97	125	158	193	267
Memorandum:											
Gross Domestic Product (Trillions of dollars)	7.6	9.1	11.4	14.4	18.0	22.4	27.7	34.3	42.6	52.8	80.5

SOURCE: Congressional Budget Office.

NOTES: Simulations without economic feedbacks assume that deficits do not affect either interest rates or economic growth.

GDP = gross domestic product; NIPA = national income and product accounts.

long run is gloomy (see Summary Table 2). Indeed, one seemingly plausible path of revenues and spending would produce a deficit of 13 percent of GDP by 2035, and would require investors to hold federal debt equal to almost 160 percent of GDP. (That projection assumes that discretionary spending would grow with the economy.) The deficit has reached levels that high only during major wars, and the debt has never in U.S. history been so large.

The rise in the deficit stems from an escalation of spending in just four categories of the budget: Social Security, Medicare, Medicaid, and interest on the debt. CBO's projections show Social Security increasing from 5 percent of GDP in 1996 to 6 percent in 2050, outlays for Medicare and Medicaid climbing from 3 percent of GDP in 1996 to 11 percent in 2050, and interest payments on the debt soaring from 3 percent of GDP in 1996 to 12 percent in 2050—even without taking into account the economic feedbacks that push up interest rates. The aging of the population and the growth of health costs per enrollee explain the rise in spending for the three entitlement programs; the growth in interest costs stems from the additional debt needed to finance higher entitlement spending.

With such massive fiscal changes, it is unreasonable to assume that growth in GDP and interest rates would remain unaffected. Incorporating economic feedbacks into the projections only makes the outlook worse. Under an array of scenarios with economic feedbacks that assume no change in current budget policy, the debt would increase to historically unprecedented levels in the next four decades (see Summary Figure 2). Moreover, as federal debt pushed up interest rates and lowered the growth of the economy, interest payments would begin to consume an ever larger share of federal spending and eventually grow at an explosive rate. In the end, the total amount of debt held by the public would reach levels that the economy clearly could not support.

How Rapidly Rising Debts Would Affect the Economy. Such rapidly rising debt would have profound consequences for the economy. Federal debt would displace private capital in housing and in business plant and equipment. It would also increase U.S. borrowing from foreigners. Thus, the economy would produce less, and a larger fraction of output would have to be paid to foreigners to service the borrowing from abroad. The rising debt would eventually put an end to the long-term growth of real gross national product per capita. (Unlike GDP, gross national product subtracts the net dividend and interest payments paid to foreigners who invest in the United States; as a result, it is a better measure than GDP of the income available to the U.S. population.)

Although CBO's simulations show the economy responding smoothly to the rapidly rising debt, those adjustments would probably be much more disorderly. Foreign investors cannot be expected to lend to the United States forever in the face of explosive debt as CBO assumed in its simulations. At some point, those lenders would lose confidence in the United States and withdraw their capital. If that happened abruptly, the exchange rate would plummet, interest rates would shoot up, and the economy would drop into severe recession. No one knows when that would occur, but when it did, the United States would have to service its foreign debt at unfavorable terms.

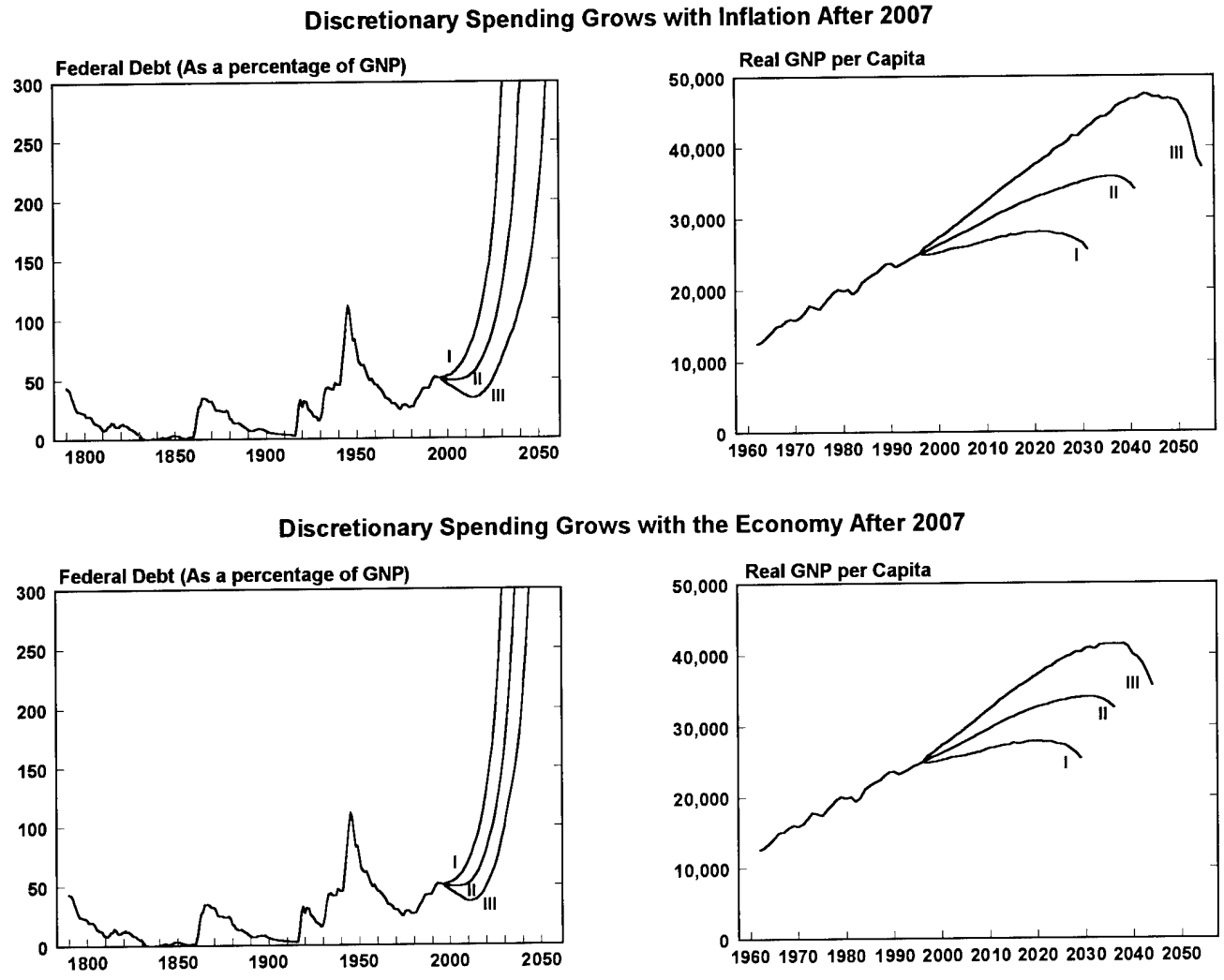
Of course, such a scenario is not a forecast of what will actually happen to the debt and the economy. Instead, it is a simulation of what could happen if the United States blindly followed current policies into the 21st century. Policymakers would certainly take the necessary steps to limit the growth of debt before it reached unthinkable levels. But because debt can quickly snowball out of control, policymakers would need to act well before it reached a critical level.

Achieving a Sustainable Policy

For any path of spending and revenues to be sustainable, the resulting debt must eventually grow no faster than the economy. One measure of the size of the problem that policymakers face is the amount that revenues would have to rise to keep the debt from exceeding its current percentage of GDP for the foreseeable future. Assuming that discretionary spending grew with the economy, CBO estimates that permanently increasing revenues by 4 percent of GDP now would achieve that goal. Because tax revenues are now about 20 percent of GDP, the long-term imbalance amounts to about 20 percent of total revenues.

Other approaches could also create sustainable budgetary conditions. For instance, a budget that was permanently balanced would freeze the level of federal debt. Thus, as the economy grew, debt would gradually fall as a share of GDP. However, sustainable policies do not require balanced budgets. As long as deficits do not grow relative to the economy, the government could in principle keep the budget in deficit forever. Under

Summary Figure 2.
Projections of Federal Debt and Real GNP per Capita, Using the Assumptions of the Base Scenario with Economic Feedbacks



SOURCE: Congressional Budget Office.

NOTES: Simulations I, II, and III are based on alternative assumptions about population and productivity growth. Simulation II is the base scenario, which assumes that the population grows according to the midrange path of the Social Security Administration and that total factor productivity grows at 1 percent annually. Simulations I and III are defined so that two-thirds of the 750 alternative simulations fall between them. Thus, the chance of an outcome better than Scenario III is about 15 percent; correspondingly, the chance of an outcome worse than Scenario I is also about 15 percent.

The projections of real GNP per capita are truncated when debt held by the public exceeds 300 percent of gross national product.

GNP = gross national product.

the assumptions of CBO's long-term simulations, if the government stabilized the NIPA deficit at its current share of GDP (about 1.7 percent), the debt would remain close to its current share of GDP indefinitely.

The economic benefits of achieving a long-term, sustainable budget policy are substantial. Compared with the unsustainable base scenario, permanently balancing the budget could raise real incomes in the United States by 23 percent by 2035 (see Summary Table 3). Moreover, even a policy that stabilized the NIPA deficit at its current share of GDP would raise real incomes by 21 percent by 2035 compared with the base scenario. In the end, the biggest economic benefits come from moving the budget from an unsustainable track to a sustainable one.

However, waiting to take action on those budgetary problems will increase the ultimate cost of resolving them. If policymakers delayed action on the budget for five years, the cost of resolving those problems would increase by about 15 percent; if action was delayed for 20 years, the total costs would shoot up by about 60 percent. The reason is simple: federal debts mount as actions are delayed, which in turn crowds out productive capital and raises the interest costs that must be paid on the debt.

Even if policymakers could not agree quickly on how to address the long-run budgetary problems created by a graying population and rising health costs, they could significantly brighten the long-term outlook by reducing the deficit in the short run. According to CBO's simulations, balancing the budget by 2002 with policies that just cut the level of outlays (but not their rate of growth in the long run) could eliminate between one-third and nearly one-half of the long-term budgetary imbalance. That estimate illustrates the large benefits of taking prompt action to reduce the deficit. By striking early, policymakers can help the economy grow

Summary Table 3.
Projections of Real GNP per Capita Under Alternative Budget Strategies

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
	In Thousands of 1992 Dollars per Capita										
Permanently Balance the Budget	25.2	26.3	28.2	30.1	32.2	34.1	36.0	38.2	40.9	43.9	50.4
Stabilize Ratio of Deficit to GDP	25.2	26.3	27.9	29.8	31.8	33.6	35.4	37.5	40.0	42.9	49.2
Continue with the Base Scenario[a]	25.2	26.3	27.9	29.7	31.4	32.7	33.6	34.1	33.2	n.c.	n.c.
	Percentage Above Real GNP per Capita in the Base Scenario										
Permanently Balance the Budget	0	0	1	1	3	4	7	12	23	n.c.	n.c.
Stabilize Ratio of Deficit to GDP	0	0	0	0	1	3	5	10	21	n.c.	n.c.

SOURCE: Congressional Budget Office.

NOTE: GDP = gross domestic product; GNP = gross national product; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

a. The base scenario assumes that discretionary spending grows with the economy.

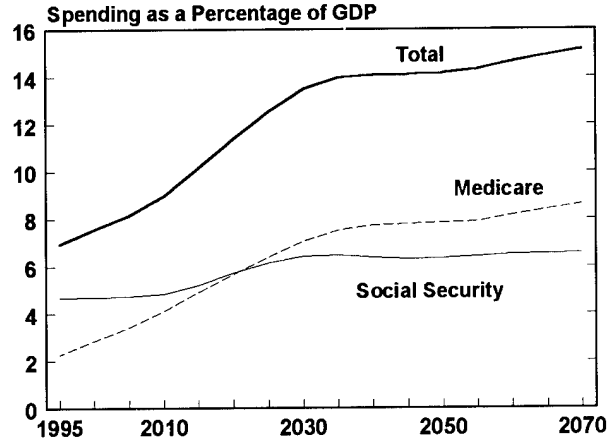
and reduce the compounding effects of interest charges on the debt.

Nonetheless, achieving a sustainable budget policy in the long run would require a more ambitious approach than just balancing the budget by 2002. Resolving the long-term problem will necessitate either cutting outlays for popular government programs or raising taxes.

Slowing the Growth of Social Security and Medicare

In 1996, federal spending for Social Security and Medicare exceeded $500 billion, which was about 7 percent of GDP. By 2030, when most baby boomers will have retired, those two programs will consume nearly twice as large a portion of GDP as they do today—almost 14 percent (see Summary Figure 3). Nearly all of the increase in Social Security's share of GDP between now and 2030—and almost two-thirds of the increase in Medicare's share—will occur between 2010 and 2030, as retired baby boomers become eligible for those programs. Those projections are based on the intermediate assumptions from the programs' trustees in their 1996 annual reports.

Summary Figure 3.
Projected Growth in Spending for Social Security and Medicare, Calendar Years 1995-2070



SOURCE: Congressional Budget Office based on intermediate assumptions from the 1996 reports of the boards of trustees of the Social Security and Medicare trust funds.

NOTES: Data are plotted at five-year intervals. Medicare spending is shown net of premium receipts.

GDP = gross domestic product.

Because Social Security and Medicare represent long-term commitments that people are counting on when they retire or become disabled, and because the economy's ability to fulfill those commitments will be strained when a much larger portion of the population participates in those programs, it is important to consider options for scaling back those commitments now. Deciding how to do so will not be easy. Large reductions in the growth of Social Security benefits and major changes in the Medicare program could adversely affect the standard of living of future retired and disabled workers, their families, and their survivors.

If spending for Social Security and Medicare could be kept from growing more rapidly than the economy when the baby boomers become eligible for both programs, the long-term outlook for the federal deficit and the economy would improve dramatically. An illustrative goal used for developing options in this report was to prevent federal spending for each program from exceeding its projected level in 2010—nearly 5 percent of GDP for Social Security and about 4 percent of GDP for Medicare. Achieving that goal, together with balancing the budget by 2002, would essentially put the federal budget on a sustainable path.

Stabilizing the ratio of spending for Social Security and Medicare to GDP provides a convenient yardstick. Yet in view of the magnitude of the demographic shift that will take place, that goal is not necessarily an appropriate one. People may reasonably differ about what proportion of GDP is appropriately spent on income support and health care for retired and disabled workers, their families, and their survivors. To achieve similar effects on the federal budget, smaller reductions in spending for Social Security and Medicare could be combined with reduced spending in other government programs or with tax increases.

Social Security

To prevent spending for Social Security from growing faster than the economy, policymakers would have to

curtail commitments made under current law substantially. Three options illustrate the trade-offs that the Congress would face in trying to reduce the growth in spending for the Social Security program.

First, the initial benefits of future Social Security beneficiaries could be reduced below the levels that current law would provide. Across-the-board cuts in initial benefits that were announced well before they took effect could produce substantial savings while still preserving the basic benefit structure of the Social Security system. In principle, workers could offset the cut in their future Social Security benefits by either working longer or saving more. However, some people would not be able to make the necessary adjustments and could therefore have much lower income when they stopped working.

Second, the age at which a worker would become eligible for full retirement benefits—the "normal retirement age"—could be raised to reflect increases in life expectancy. Under legislation enacted in 1983, the normal retirement age is already scheduled to rise from 65 to 67. Some proposals would speed up the transition to age 67 and then further increase the age to keep up with future gains in life expectancy. Raising the age at which a worker would become eligible for full benefits is, for most purposes, equivalent to cutting initial benefits, with similar advantages and disadvantages.

Third, future annual cost-of-living adjustments (COLAs) could be reduced. Current law indexes the basic Social Security benefit by the increase in the consumer price index (CPI), beginning when a worker becomes eligible for benefits. Many analysts feel that the CPI overstates increases in the cost of living, although the magnitude of the overstatement and what should be done about it are subject to much debate. The Advisory Commission to Study the Consumer Price Index (also known as the Boskin Commission) recently estimated the size of the upward bias to be about 1 percentage point per year. If that is the case, then Social Security beneficiaries have been receiving increases that exceed the changes in the cost of living. Unlike across-the-board reductions in benefits and increases in the normal retirement age, substantial changes in COLAs would eventually reduce benefits the most for the oldest beneficiaries and for those who initially became eligible for Social Security on the basis of disability.

Each of those approaches could be used to achieve considerable savings, with the amount depending on the specific changes made. Estimates provided by the Social Security Administration's Office of the Actuary illustrate the magnitude of the changes that would be required (see Summary Table 4). Cutting the initial benefits of each successive cohort of workers who become eligible for Social Security disability or retired-worker benefits by 1 percent a year, starting in 1998 and ending in 2032, would ultimately reduce spending by about 30 percent. But the full savings would take a long time to achieve. By 2030, spending would be about 20 percent below the projected amount for that year under current law—not quite enough to keep Social Security spending from growing as a percentage of GDP. Under this option, workers with histories of average earnings who retired at age 65 in 2030 could receive lower Social Security benefits (adjusted for inflation) than do workers retiring now at age 65, according to the Social Security's Office of the Actuary.

Speeding up the rise in the normal retirement age to age 67 and then linking it to increases in longevity would achieve smaller savings. Under that option, the age at which full benefits would be paid rises to age 70 in 2029 (for workers born in 1967) and then goes up by one month every other year, increasing to age 71 in 2053. The option would reduce spending by less than 10 percent in 2030.

Cutting COLAs would achieve savings more rapidly by affecting all beneficiaries, not just new ones. It would take an extremely large reduction, however—about 2.5 percentage points below the increase in the CPI—to cut spending by 25 percent. Alternatively, the preceding option to increase in the normal retirement age could be combined with a smaller reduction in the COLA (roughly CPI minus 1 percentage point) to achieve comparable savings.

The Advisory Council on Social Security considered those and other approaches in its recent publication, *Report of the 1994-1996 Advisory Council on Social Security*. The members of the council were unable to reach a consensus on how to improve the financial status of Social Security and, instead, presented three alternative plans. Much of the public attention about those plans has focused on aspects that involve either requiring workers to invest a certain percentage

of their earnings in retirement accounts or investing a portion of the balance in the Social Security trust funds in equities rather than Treasury securities. Ultimately, the success of a proposal in preparing the economy for the retirement of the baby boomers rests on the extent to which it would increase national saving. Some of the specific provisions in one or more of the plans would do that by slowing the growth in spending for Social Security—for example, by reducing initial benefits or increasing the normal retirement age. Other provisions could increase national saving by requiring workers to save more than would otherwise be the case or by raising taxes.

Medicare

Medicare has been highly successful in achieving its original objective—ensuring access to mainstream medical care for the aged and later the disabled—but Medicare's costs have become increasingly burdensome to the economy. In 1996, Medicare's spending net of

Summary Table 4.
Effects of Four Illustrative Options for Reducing Growth in Spending for Social Security (In percent)

Option	2010	2030	2050	2070
	Spending as a Percentage of GDP			
Current Law	4.8	6.4	6.3	6.6
Phase in a 30 Percent Reduction in Initial Benefits[a]	4.6	5.2	4.6	4.6
Raise the Normal Retirement Age[b]	4.8	5.9	5.5	5.5
CPI Minus 1 Percent[c]	4.5	5.7	5.6	5.8
CPI Minus 2.5 Percent[c]	3.9	4.9	4.7	4.8
	Savings as a Percentage of Projected Spending			
Phase in a 30 Percent Reduction in Initial Benefits[a]	4	19	28	30
Raise the Normal Retirement Age[b]	1	8	13	16
CPI Minus 1 Percent[c]	8	11	12	12
CPI Minus 2.5 Percent[c]	19	24	26	27

SOURCE: Congressional Budget Office based on estimates provided by the Social Security Administration, Office of the Actuary, December 5, 1996, using the intermediate assumptions in the 1996 report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds.

NOTE: CPI = consumer price index; GDP = gross domestic product.

a. Starting in 1998 and ending in 2032, the benefits of each successive cohort of workers becoming eligible for Social Security disability or retired-worker benefits would be reduced by 1 percent a year. Thus, workers becoming eligible in 2032 or later would receive about 70 percent of the benefits that they would have received under current law.

b. The normal retirement age of workers who turn 62 in 2011 would be age 67. It would increase by two months a year until it reached 70 in 2029, and it would increase by one month every other year for the remainder of the projection period.

c. Beginning in 1998, the cost-of-living adjustment would be set to equal the increase in the consumer price index minus the specified number of percentage points.

premiums paid by enrollees was 2.4 percent of GDP. If no changes were made in current law, net spending is expected to reach 4.1 percent of GDP by 2010, and 8.6 percent by 2070. Underlying those projections is an assumption that growth in Medicare's spending per beneficiary will gradually slow between 2005 and 2020 to be more in line with growth in income per capita. That assumption may be optimistic, since no policies designed to achieve that result are currently in place.

Three fundamental approaches can be used to slow the growth in federal spending for Medicare. The Congress could reduce the number of people eligible for benefits, collect more of the costs from beneficiaries, or restructure Medicare to reduce total health care costs per beneficiary (see Summary Table 5).

One way to reduce the number of people eligible for benefits would be to increase the age of eligibility from 65 to 70, using the schedule presented above for increasing the normal retirement age for Social Security benefits. That approach would ultimately reduce federal spending for Medicare by about 15 percent compared with current law. Despite those considerable savings, net spending would continue to grow after 2010 as a percentage of GDP, reaching 7.3 percent of GDP by 2070. Further, that approach would do little to reduce total health care costs, and it would lengthen the

Summary Table 5.
Effects of Three Illustrative Options for Reducing Growth in Net Spending for Medicare (In percent)

Option	2010	2030	2050	2070
Net Federal Spending as a Percentage of GDP				
Current Law	4.1	7.1	7.8	8.6
Delay Eligibility to Age 70[a]	4.1	6.2	6.6	7.3
Collect 50 Percent of Costs from Premiums[b]	2.2	3.7	4.1	4.4
Restructure the Program and Limit Growth in Defined Contribution to 4.2 Percent a Year[c]	3.3	4.1	3.6	3.2
Savings as a Percentage of Projected Spending				
Delay Eligibility to Age 70[a]	1	13	16	15
Collect 50 Percent of Costs from Premiums[b]	47	48	48	49
Restructure the Program and Limit Growth in Defined Contribution to 4.2 Percent a Year[c]	21	42	54	62

SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTE: GDP = gross domestic product.

a. The age of eligibility for Medicare would be increased to 70 by 2032, phased in from 2003.

b. Premiums for Medicare enrollees would be increased to cover 50 percent of total Medicare (Hospital Insurance and Supplementary Medical Insurance) costs by 2010.

c. Medicare's per-enrollee contribution in 2000 would be set at total per capita costs less 25 percent of Part B costs. That amount would be increased by 6.0 percent a year through 2005, 5.0 percent a year through 2010, and 4.2 percent a year thereafter.

period of time during which people who opted for early retirement under Social Security might have difficulty getting private insurance coverage.

Under the second approach, premiums collected from beneficiaries would be increased to cover 50 percent of Medicare's total costs for both Parts A and B. Because premiums paid by enrollees cover only about 10 percent of costs now and that share will fall steadily after 1998 under current law, nearly all of those collections would represent federal savings. This option would keep net Medicare spending as a share of GDP from rising above the target level until 2060. However, that result would be accomplished by shifting costs to beneficiaries, rather than by constraining the growth in total health care costs. Without any changes to improve the efficiency of the Medicare program, premiums would consume an ever larger share of enrollees' income. Indeed, Medicare premiums would equal nearly 30 percent of enrollees' income by 2070, compared with 3 percent in 1996.

A third approach to slow the growth of federal spending for Medicare would be to restructure the program, giving patients and providers greater incentives to make cost-effective choices. One way to do that would be to set up a system of competing health care plans and limit growth in the amount Medicare would contribute toward the premiums charged by the various plans. In such a restructured system, Medicare's fee-for-service sector could be just one of a number of plans competing for enrollees on the same basis as all other plans. Because enrollees would be responsible for any excess premium amounts and would receive rebates for plans costing less than Medicare's contribution, they would have financial incentives to be prudent purchasers of health plans. Also, because plans would be at risk for any costs above their predetermined premium collections, they would have financial incentives to operate efficiently. Control of federal Medicare spending would be assured because the financial risks from higher growth in health care costs would be shifted to health plans and enrollees. Although the federal subsidy per enrollee would be smaller than it would be under current law, competition among plans and providers might spur efficiency and increase real health benefits for each dollar spent.

For example, Medicare's defined contribution could be set to equal net spending per enrollee in 2000, increased by 6 percent a year through 2005, 5 percent a year through 2010, and 4.2 percent a year thereafter. Under this option, federal savings would be 42 percent of currently projected spending by 2030 and 62 percent by 2070. The option would keep federal spending from exceeding the target through 2030, and would keep it below the target in later years. Consequently, growth in the federal contribution might be increased once the baby-boom generation had been fully absorbed.

However, the effects of that approach on total costs for a basic-benefit package—and therefore on the costs that beneficiaries would bear—are uncertain. If the incentives generated for more cost-conscious behavior reduced annual growth in total costs per enrollee only to the rate assumed by Medicare's trustees, premiums for enrollees would steadily increase— reaching 37 percent of their average income by 2070. If, instead, growth in costs per enrollee slowed to match the annual growth in the federal defined contribution, premiums would represent only 2.2 percent of the average income of enrollees in 2070.

In practice, the effects would probably differ among various enrollee groups. Some basic plans would probably keep their costs low enough to avoid having to charge supplemental premiums. However, the access to providers and quality of services available in those plans might limit their appeal primarily to low-income enrollees. Higher-income enrollees might gravitate instead to plans that charged supplemental premiums and provided better access and quality.

Costs must be reduced substantially if net federal spending for Medicare is to be limited as a percentage of GDP. To keep net spending at or below 4.1 percent of GDP, savings equal to about 50 percent of currently projected spending must be generated annually from 2010 onward.

Conclusion

The economy will benefit greatly if policymakers act sooner rather than later to forestall the budgetary problems on the horizon. The pressures of demographics and rising health costs will become severe in just a few years. If changes in Social Security and Medicare are to be part of the solution, then making decisions about

those programs now—well before the changes would take effect—could give people time to adjust their savings and retirement plans. Conversely, waiting to make those decisions until the baby-boom generation is on the verge of retirement could be very disruptive.

Moreover, significant benefits will accrue not only from making decisions now about future cuts in the deficit, but from actually making some cuts. In fact, balancing the budget over the next few years will significantly brighten the budget picture in the long run. But if policymakers do not address the factors that will increase the deficit thereafter, those changes alone will not eliminate the long-term problem.

Controlling the growth of outlays for Social Security and Medicare could significantly reduce the long-term imbalance in the federal budget and enhance the economic prospects of future generations. For example, if spending for those two programs in the long run was constrained not to exceed their share of GDP in 2010, three-quarters of the imbalance could be erased. If, in addition, the budget was balanced by 2002, the remaining imbalance would be eliminated.

The outlook for the economy will, of course, depend on how policymakers reduce the deficit. But that point should not obscure the fundamental importance of resolving critical budget issues. Although alternative deficit reduction packages would have different effects on the economy, the potential economic gains from any significant deficit reduction package are enormous. The one option that is not feasible is to do nothing.

Chapter One

The Long-Term Budget Outlook

The outlook for the deficit appears relatively benign over the next decade. After declining for the past four years, the deficit is expected to creep up as a share of gross domestic product (GDP) from 1996 through 2007 under current laws and policies. Although the increase is fairly moderate, it is by no means the end of the story because a deeper and more fundamental problem is just over the budgetary horizon.

About 2010, the oldest members of the huge baby-boom generation will turn 65 years old and begin to draw benefits from the government's three biggest entitlement programs—Social Security, Medicare, and Medicaid. At the same time, the growth of revenues will be squeezed because the proportion of people working and paying taxes will shrink. As a result, deficits will start to mount rapidly.

Financing the growth in entitlements through ever-increasing deficits is not a workable option. Indeed, the shortfalls projected for future years would become so large that they could put an end to the upward trend in living standards that the nation has long enjoyed. Thus, current U.S. budget policies cannot be sustained indefinitely without risking substantial economic damage. At some point, the growth of spending will have to be curbed or taxes raised.

The conclusions reached here are derived from a model that the Congressional Budget Office (CBO) has developed for projecting the deficit over several decades and for examining its effects on interest rates and economic growth. CBO first reported the results of that model in Chapter 4 of its *Economic and Budget Outlook: Fiscal Years 1996-2006*, published in May 1996. This report updates that earlier work to reflect the revised near-term outlook for the deficit.

Obviously, projections of future events are subject to considerable uncertainty. To get a sense of the likely range of outcomes, CBO developed its projections by using a broad spectrum of possible assumptions and conditions. Although the exact outcomes are sensitive to changes in demographics, economic factors, and the interpretation of policy, a basic conclusion holds: the nation's current budget policies are unsustainable even under optimistic assumptions. The long-term budgetary problem will not resolve itself without action by policymakers.

The Aging of the U.S. Population

The proportion of elderly people in the U.S. population will increase substantially in coming decades (see Table 1). According to the Social Security Administration, the number of people age 65 and older will more than double between 1995 and 2030, whereas the number of people who are 20 to 64 years old will increase by only 20 percent. Consequently, over the next several decades, young people will have to support a growing number of the elderly.

Why Will the Number of Retirees Increase?

The expected increase in the number of elderly people stems from two factors: people are living longer and the baby-boom generation is aging. Thanks to increased education, healthier living, and improvements in the quality of medical care for older people, a larger proportion of the adult population is reaching the age of 65, and life expectancy at that age has increased by two years since 1970—about a 15 percent increase. In 1970, the average person at birth was expected to live about 71 years. By 1990, the average life span had increased to 75 years; by 2010, it is projected to increase to 78 years.

The aging of the baby boomers is also an important factor in the outlook. Before World War II, the number of births in the United States slid to a low point (see Figure 1). That generation is now reaching retirement age, and their small numbers are providing a respite from budgetary pressure. After World War II, however, the number of births soared: between 1956 and 1961, births jumped to more than 4.2 million a year and did not drop below 4 million until 1965. People born between 1946 and 1964 have been labeled the baby-boom generation, and they will begin to draw Social Security benefits for retired workers in 2008, when the oldest of them first reaches age 62.

The Slowing Growth in the Labor Force

The growth of the labor force will slow significantly when the baby boomers retire because the birth cohorts that follow the boomers are considerably smaller. After the mid-1960s, the number of births dropped to well under 4 million and did not reach that level again until 1989. The labor force will also grow more slowly as women's participation in the labor force, which escalated sharply in the 1970s and 1980s, begins to approach that of men's. The Social Security Administration projects that the average rate of growth of the labor force will slow from the 2 percent a year it achieved

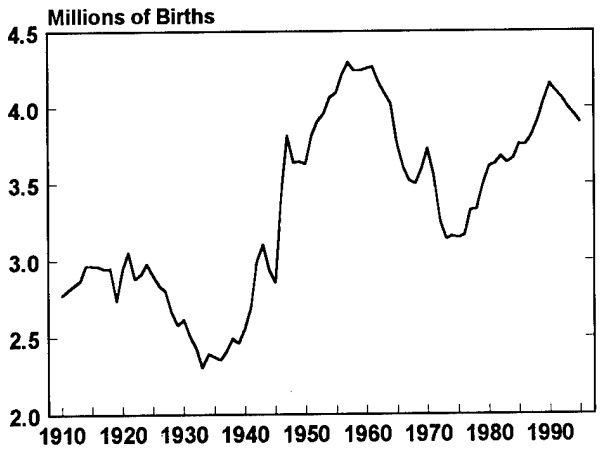
Table 1.
Population of the United States by Age, Calendar Years 1950-2050

Age Group	1950	1970	1990	1995	Projected 2010	Projected 2030	Projected 2050
			In Millions of People				
Less than 20 Years Old	54	81	75	79	82	83	84
20 to 64 Years Old	93	113	153	160	185	192	201
65 and Older	13	21	32	34	40	68	75
Total	159	215	260	273	307	342	359
			As a Percentage of the Total Population				
Less than 20 Years Old	34	38	29	29	27	24	23
20 to 64 Years Old	58	53	59	59	60	56	56
65 and Older	8	10	12	13	13	20	21
Total	100	100	100	100	100	100	100

SOURCE: Congressional Budget Office based on data from the Social Security Administration of the population as of July 1 of each year.

NOTE: Numbers may not add to totals because of rounding.

Figure 1.
Number of Births in the United States, 1910-1995



SOURCE: Congressional Budget Office using data from the National Center for Health Statistics.

from 1960 to 1989 to 1 percent annually for the 1989-2010 period and 0.2 percent between 2010 and 2050.

Like all long-range projections, those for the labor force are highly uncertain. Nevertheless, the relatively high rate of growth of the labor force in the past 35 years is unlikely to continue. Higher rates of immigration could prevent some of the expected deceleration, but for the labor force to continue to grow through 2030 at even 1 percent a year, its average annual rate since 1990, rates of immigration would have to exceed those seen early in this century by a wide margin.

Despite those uncertainties, the overall message is clear: with more retirees and little growth in the number of workers, the ratio of workers to retirees will plummet in coming decades. In 1950, for each person age 65 or older, there were 7.3 people in their working years from 20 to 64. By 1990, that ratio had dropped to 4.8 to 1; by 2030, there may be only 2.8 people of working age for every person 65 and over. The United States is not alone in facing these problems: populations are graying in other industrialized countries as well (see Box 1).

How Will Demographics Affect the Budget?

Both the outlay and revenue sides of the federal ledger will be strained as the ratio of workers to retirees declines. Outlays for government programs that provide retirement and health benefits to the elderly will rise substantially as the number of people eligible to receive those benefits shoots up. At the same time, revenues will be pinched because the number of people working and paying taxes will grow more slowly. Moreover, as the growth of the labor force slows, economic growth will taper off, causing the growth of taxable nonlabor income, such as interest and dividends, to slow as well. Of particular concern are Social Security and Medicare's Hospital Insurance (HI) program. Because those entitlements are now structured to rely on payroll taxes, the growth of labor earnings is one of the keys to their financial health.

The projected discrepancy between spending and revenues will be a serious one. For example, the trustees for Social Security and Medicare's Hospital Insurance program project that outlays for those programs will grow from 6.4 percent of GDP in 1996 to 10.9 percent in 2050. At the same time, the inflows of funds (excluding interest) for those two programs are projected to fall from 6.6 percent of GDP in 1996 to 6.3 percent in 2050. Hence, although inflows exceed spending for those programs now, that surplus will disappear and a large gap between spending and inflows will open up. By 2050, outlays are projected to exceed inflows by about 75 percent.[1]

The Continued Rapid Growth of Federal Health Expenditures

Rapidly rising expenditures per beneficiary in the Medicare and Medicaid programs will present a particularly serious challenge to the budget in coming years unless significant steps are taken to reduce their rate of growth. Federal spending for health care has been growing at a brisk pace for many years. Over the past decade, expenditures for Medicare have increased at an annual rate of about 10 percent; Medicaid spending has risen at a rate of about 15 percent (see Table 2). With such growth, Medicare and Medicaid have taken up an

1. All numbers are taken from Board of Trustees, Federal Old-Age and Survivors and Disability Insurance Trust Funds, *1996 Annual Report* (June 5, 1996).

increased share of the economy's income: from 1.3 percent of GDP in fiscal year 1975 to 3.8 percent in 1996.

Despite some good news about federal health costs in 1996 and the apparent recent success of private insurers in controlling their costs, many of the factors that have contributed to the fast growth of the government's health entitlement programs are still in place. CBO projects that outlays for Medicare and Medicaid will continue to rise by about 8 percent a year over the next decade, which is slower than in the past, but will still be above the overall growth of GDP. As a result, spending for those programs is projected to increase to 5.5 percent of GDP in fiscal year 2007.

Box 1.
Aging of Populations and Its Effect on Government Budgets in Other Countries

Most developed countries will find their populations rapidly aging in the near future (see the table below). In 1990, the number of people age 65 and older as a percentage of the population ages 20 to 64 for most industrialized countries clustered around 20 percent. By 2030, however, those ratios are projected to more than double in Japan, Germany, France, Italy, and Canada. The aging of the population in the United Kingdom, where the number of elderly to people ages 20 to 64 started in 1990 at a relatively high level, is projected to be less pronounced. Nonetheless, the ratio reaches over 40 percent by 2030. Beyond 2030, projections call for those ratios to stabilize in all countries except Japan and Italy, where further increases of more than 10 percentage points are expected. Compared with other countries, the United States is in a relatively favorable position.

Aging will have a major impact on the budgets of most of the major industrialized countries, although the consequences differ depending on the starting position of each nation's public debt, its policies for the elderly, and the nature of the demographic changes. In particular, the liabilities that a government has incurred through public pension systems and spending for public health dictate the effects that an aging population will have on its budget. For example, Japan is likely to see a steep rise in its overall budget deficit and a rapid accumulation of net debt from 2005 onward, whereas net debt in Italy will begin to increase sharply after 2015. In contrast, both the United Kingdom and Canada are likely to experience falling ratios of net debt to output, reflecting relatively favorable pension policies.[1]

1. For further information, see Willi Leibfritz, Douglas Roseveare, Douglas Fore, and Eckhard Wurzel, *Ageing Populations, Pension Systems, and Government Budgets: How Do They Affect Saving?* OECD Economics Department Working Paper No. 156 (Paris: Organization for Economic Cooperation and Development, 1995).

Ratio of People Age 65 and Older to People Ages 20 to 64 (In percent)

	1990	2010	2030	2050
Japan	19.3	35.8	48.7	60.1
Germany	23.6	32.9	53.8	57.5
France	23.4	27.2	43.1	48.4
Italy	24.3	33.8	52.4	66.7
United Kingdom	26.7	28.6	42.8	45.8
Canada	18.6	22.9	43.6	46.5
United States	20.8	21.3	35.7	37.0

SOURCE: Congressional Budget Office based on data from the Social Security Administration and from Eduard Bos, My T. Vu, Ernest Massiah, and Rodolfo A. Bulatao, *World Population Projections, 1994-1995 Edition* (Washington, D.C.: International Bank for Reconstruction and Development/World Bank, 1994).

Although some of that growth comes from an expansion in the number of enrollees, most of it stems from continuing increases in expenditures per enrollee at rates well in excess of inflation. Unlike Social Security, whose real (inflation-adjusted) spending for each beneficiary is set legislatively by a formula that depends on a person's wage history, Medicare and Medicaid are open-ended entitlements in the sense that they place no dollar limit on the benefits they provide to each participant. CBO projects that over the next de-

Table 2.
Average Annual Rates of Growth in Payments by Medicare and Medicaid (By fiscal year, in percent)

	1970-1975	1975-1980[a]	1980-1985	1985-1990	1990-1996	1996-2007[b]
			Medicare			
Growth in Payments by the Federal Government[c]	16	18	15	9	12	8
Growth in the Number of Enrollees[d]	4	3	2	2	2	1
Growth in Federal Payments per Enrollee	12	15	13	7	10	7
			Medicaid			
Growth in Payments by the Federal Government[e]	20	15	10	13	17	8
Growth in the Number of Beneficiaries[f]	9	0	0	3	7	1
Growth in Federal Payments per Beneficiary	11	15	10	9	9	7
Memorandum:						
Growth in the CPI-U	7	9	6	4	3	3
Growth in Nominal GDP	9	11	9	7	5	5

SOURCE: Congressional Budget Office based on data from the Health Care Financing Administration; Department of Commerce, Bureau of Economic Analysis; and Department of Labor, Bureau of Labor Statistics.

NOTES: The treatment of home ownership in the official consumer price index for all urban consumers changed in 1983. The inflation series in the table uses a consistent definition throughout.

CPI-U = the consumer price index for all urban consumers; GDP = gross domestic product.

a. Growth rates account for the change in the fiscal year that occurred in 1976.

b. Projected.

c. Excludes Medicare premium collections.

d. Based on enrollees in Medicare's Hospital Insurance program.

e. Includes administrative costs and payments to disproportionate share hospitals.

f. Beneficiaries are assumed to grow at the same rate as Medicaid enrollees in CBO's baseline projections.

cade, federal spending per enrollee in Medicare and Medicaid will increase at more than twice the rate of inflation, as measured by the consumer price index for all urban consumers, and 50 percent above the growth rate of wages. Thus, even if the ratio of retirees to workers was not projected to increase, the health programs would consume a growing share of GDP.

Medicare's trustees assume that the growth in expenditures will slow significantly over the next two decades. Specifically, the trustees of the Hospital Insurance Trust Fund assume that, after 25 years, the cost per unit of service provided by the HI program would grow at the same rate as average hourly earnings; the trustees of the Supplementary Medicare Insurance program assume that, after 13 years, the growth in costs per enrollee would decline gradually so that they would be growing no faster than GDP per capita after 25 years. Given the historical experience of health costs per enrollee, those assumptions may be considered optimistic. Even with that slowing in per-enrollee costs, however, the trustees project that total Medicare spending will continue to climb, rising from 2.7 percent of GDP in 1996 to 8.1 percent in 2050.

The Long-Term Effects of an Aging Population

What would happen if no changes were made to U.S. budget policy in the face of the impending retirement of the baby boomers? CBO addressed that hypothetical question by projecting future budget revenues and expenditures under various economic and demographic conditions and by examining their impact on the federal deficit and the economy over the next several decades. The approach used by CBO is broadly similar to that taken by the General Accounting Office (GAO) and the Office of Management and Budget in considering the same question.[2]

Budget Assumptions

Developing computer models of the long-term implications of existing laws and policies requires making assumptions about the basic nature of policy in the absence of change. Those assumptions formed a base scenario; varying them produced alternative scenarios.

For the 1997-2007 period, CBO followed its 10-year baseline projections. Taxes and mandatory spending reflect current law, and discretionary outlays grow with inflation, subject to their statutory caps. But extending such detailed assumptions over the long run is hard to justify. For one thing, techniques that are suitable for preparing 10-year budget projections can produce misleading results when used to produce very long-run projections.

Thus, for the years after 2007, CBO did not attempt to extend its regular budgetary projections. Instead, it simply assumed that spending would grow according to some simple and reasonable rules for most categories of the budget. CBO also adopted the official long-term projections for Social Security, Medicare, and federal retirement programs prepared by other government organizations. Those projections were then adjusted for differences between CBO's economic assumptions and those of the other organizations (see Box 2 for more details).

To allow for different possibilities, CBO prepared two sets of simulations for discretionary spending. One assumes that discretionary programs after 2007 will grow at the rate of inflation, which would hold their real value constant in today's dollars. The other set assumes that discretionary programs will keep pace with the growth of the economy, which would allow the amount spent on the discretionary accounts to rise with both inflation and real economic growth.

Holding the long-term growth of discretionary programs to the rate of inflation—rather than letting them grow with the economy—is an optimistic assumption. It does not allow discretionary spending to grow with population, let alone with real income per capita. It implies that spending for those programs as a share of GDP would decline sharply from 7 percent of GDP in 1996 to 3 percent in 2050. But public demands for many categories of discretionary spending—education, infrastructure, and environmental protection, to name a

2. General Accounting Office, *Budget Policy: Prompt Action Necessary to Avert Long-Term Damage to the Economy*, GAO/OCG-92-2 (June 1992), and *The Deficit and the Economy: An Update of Long-Term Simulations*, GAO/AIMD/OCE-95-119 (April 1995); "Analytical Perspectives," *Budget of the United States Government, Fiscal Year 1998* (February 1997), pp. 23-30.

few—may well grow with a rising population and real incomes. Moreover, given the huge uncertainties of looking so far ahead, it may be overly optimistic to assume that the world will remain as peaceful as it is today and that the share of income spent on the military will continue to decline over the next half century.

Box 2.
The Budget Assumptions in CBO's Long-Term Projections

Long-term projections depend on key assumptions about how spending and revenues will grow after 2007. Because the Congressional Budget Office's (CBO's) long-term simulations focus on macroeconomic relationships, its projections use the budget categories defined by the national income and product accounts rather than those of the unified budget, which CBO focuses on in its annual reports.

Retirement Programs. CBO based its projections for Social Security on the long-term projections prepared by the trustees of the Old-Age and Survivors and Disability Insurance Trust Funds. However, CBO adjusted those projections for differences between its economic assumptions and those of the trustees.[1] Because CBO projected much lower rates of inflation than did the trustees, the level of Social Security outlays in its projections is much lower than that in the trustees' projections. But when outlays are expressed as a share of gross domestic product (GDP), the differences between CBO's numbers and those of the trustees are small because low inflation also reduces nominal GDP. Spending for federal civilian and military retirement was based on the projections prepared by the Office of Personnel Management and the Department of Defense, which were also adjusted for differences in assumptions about the growth of real wages.

Health Programs. CBO based its projections of Medicare outlays on the forecasts prepared by Medicare's trustees. Those forecasts were also adjusted for differences in economic assumptions. Again, those differences are small when spending is expressed as a share of gross domestic product.

CBO assumed that Medicaid spending would grow with the demands for Medicaid as the population ages and with increased federal health care expenditures per beneficiary. Growth in spending per enrollee of a given age was assumed to decline gradually over the 2007-2020 period to the rate of growth of hourly wages and then to grow with them after 2020. That assumption is roughly consistent with the trustees' assumptions about Medicare.

Federal Expenditures for Defense and Nondefense Goods and Services. Those expenditures are largely discretionary, and funds for them are appropriated annually. For this category, CBO used two alternative assumptions about discretionary spending: it would grow either at the same rate as inflation or at a rate that reflected both inflation and real growth of the economy.

Other Transfers, Grants, and Subsidies. CBO assumed that spending for other domestic transfers would grow with demographic demands, inflation, and labor productivity. Domestic transfers in this case include Food Stamps, Supplemental Security Income, Unemployment Insurance, the earned income credit, and veterans' benefits, among other programs. Other grants include outlays for programs that replace the former Aid to Families with Dependent Children and other federal programs that transfer funds to state and local governments. Those grants, transfer payments to foreigners, and other subsidies were assumed to grow with discretionary spending.

Receipts. CBO assumed that federal taxes would grow at roughly the same rate as the economy, except for taxes collected on income from interest on Treasury securities (which is part of the income tax base, not GDP). As a technical matter, revenue growth also reflects growth in Supplementary Medical Insurance (Part B of the Medicare program), some of which enrollees finance through premiums that are treated as receipts in the national income and product accounts. Without an increase in the share of income devoted to interest or Medicare premiums, tax revenues would remain a stable share of the economy. That assumption is not an exact extrapolation of current law, but it is not very different from CBO's 10-year baseline revenue projections, which show little change in the share of GDP claimed by revenues after 2000. Moreover, because the revenue share has been relatively stable over many years, CBO's assumption is consistent with long-term historical trends.

1. In the base scenario, CBO used the same demographic assumptions as did the trustees.

Economic Assumptions

CBO developed its simulations of the economy using a standard model of economic growth. In that model, the production of goods and services in the economy, as measured by potential GDP, depends on hours of labor, capital, and total factor productivity (TFP). Gross domestic product also varies for cyclical reasons, but that variation averages out over time and is not considered further in this chapter.

CBO's model also provides for the way the nation's debt (the total amount that the government explicitly owes) interacts with the economy. As deficits rise, they crowd out capital investment, slow economic growth, and raise interest rates. In turn, the growth in tax revenues declines, and the cost of servicing the debt goes up. Those economic feedbacks between the deficit and the economy can significantly increase the size of the deficit—in essence, imposing a fiscal penalty rather than a dividend.

From 1997 to 2007, the base scenario follows the medium-term projections presented in CBO's *Economic and Budget Outlook: Fiscal Years 1998-2007.* For the years after 2007, CBO makes four assumptions about the economy. First, the annual growth in hours of work is assumed to slow to a crawl as the baby boomers leave the workforce or otherwise reduce their average hours of work. Consequently, the annual growth of total hours in the nonfarm economy drops from its average rate of 1.6 percent from 1979 through 1989 to only 0.1 percent between 2020 and 2030.[3] Second, CBO assumes that growth of total factor productivity, which is the growth in output that is not attributable to growth in either capital or labor, would rise 1 percent each year. Third, the growth of capital depends on whether the projection includes economic feedbacks. In projections without economic feedbacks, capital grows at the same rate as the overall economy after 2007, and rising deficits have no effect on the formation of capital or economic growth. By contrast, in projections with economic feedbacks, burgeoning deficits crowd out capital investment and slow the growth of the capital stock. The effect of the deficit on capital investment in those projections is assumed to be partially offset by increased private saving and by borrowing from abroad. Finally, CBO assumes that inflation after 2007 would remain steady at 2.6 percent.

CBO made two major technical changes in its long-term budget model since it was unveiled last May. First, CBO altered its method for aggregating the components of investment into a measure of the capital stock. The new procedure is now consistent with CBO's method of preparing its medium-term (10-year) projections. (That revision also changed the definition of total factor productivity in the model.) Second, partly as a result of changing its measure of the capital stock, CBO also increased its estimate of the long-term growth of total factor productivity. Last May, CBO assumed that TFP would grow about 0.7 percent a year; it is now assumed to grow at 1 percent a year. The new rate is consistent with the historical rate of growth of CBO's revised measure of TFP from 1952 to 1996, but it is noticeably faster than what CBO assumes in its medium-term projections from 1997 to 2007.

The revision in the growth of TFP after 2007 significantly raises CBO's estimates of the growth rate of potential GDP in the long run. Last May, CBO projected that, without economic feedbacks, the trend in the annual growth rate of real GDP will slip from about 2.0 percent in 2005 to 1.3 percent in 2020, reflecting the slowing growth of the labor force. CBO now expects it to decline to 1.7 percent. Thus, although the labor force is still expected to grow much more slowly when the baby boomers retire, the pickup in TFP growth after 2007 offsets some of that decline. CBO's assumption about growth in real GDP in the long run is more optimistic than the Social Security Administration's. Implicitly, CBO incorporates the chance of a period of exceptionally high growth in productivity. Of course, making such long-term projections involves huge uncertainties, and analysts disagree about the appropriate assumption for growth in productivity.

Economists often use GDP to put a common scale on budget revenues and outlays over time, and CBO has followed that practice in this chapter. But for measuring real economic income per person, CBO used the concept of gross national product (GNP). Unlike GDP, gross national product does not include the net dividend and interest payments owed to foreigners who invest in the United States. As a result, it is a better measure than GDP of the income actually available to the U.S. population. In the projections without economic feed-

3. The trustees of the Old-Age and Survivors and Disability Insurance Trust Funds project a similar slowing in the growth of hours.

backs, the growth of GNP matches that of GDP quite closely. However, in the projections with feedbacks, GNP and GDP diverge significantly because deficits are partly financed by additional borrowing from foreigners.

Simulations Without Economic Feedbacks

The assumptions described above are the key elements in the long-term simulations, and because of their critical importance, a wide range of alternative assumptions was also considered. But to keep the analysis relatively simple, CBO first presents the simulations without considering how deficits would adversely affect the economy—that is, without incorporating economic feedbacks.

Even without those feedbacks, the outlook for the budget deficit is gloomy in the early decades of the 21st century. Unless changes were made in budget policy, the deficit would increase to relatively high levels in the 2030s. Under either assumption about discretionary spending (that it rises either with the rate of inflation or at the same rate as the economy), the national income and product accounts' (NIPA) deficit would climb from 2 percent of GDP in 1996 to between 10 percent and 13 percent in 2035 (see Table 3). Moreover, the deficit

Table 3.
Projections of the Deficit and Debt Held by the Public, Using the Assumptions of the Base Scenario, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
Discretionary Spending Grows with Inflation After 2007											
Without Economic Feedbacks											
NIPA deficit	2	2	2	3	4	5	7	8	10	11	13
Debt held by the public	50	48	48	50	55	65	80	100	122	145	193
With Economic Feedbacks											
NIPA deficit	2	2	2	3	4	5	8	12	18	31	n.c.
Debt held by the public	50	48	48	50	56	68	89	121	171	266	n.c.
Discretionary Spending Grows with the Economy After 2007											
Without Economic Feedbacks											
NIPA deficit	2	2	2	3	5	7	9	11	13	15	18
Debt held by the public	50	48	48	50	59	75	97	125	158	193	267
With Economic Feedbacks											
NIPA deficit	2	2	2	3	5	7	11	16	28	n.c.	n.c.
Debt held by the public	50	48	48	51	60	79	110	159	250	n.c.	n.c.

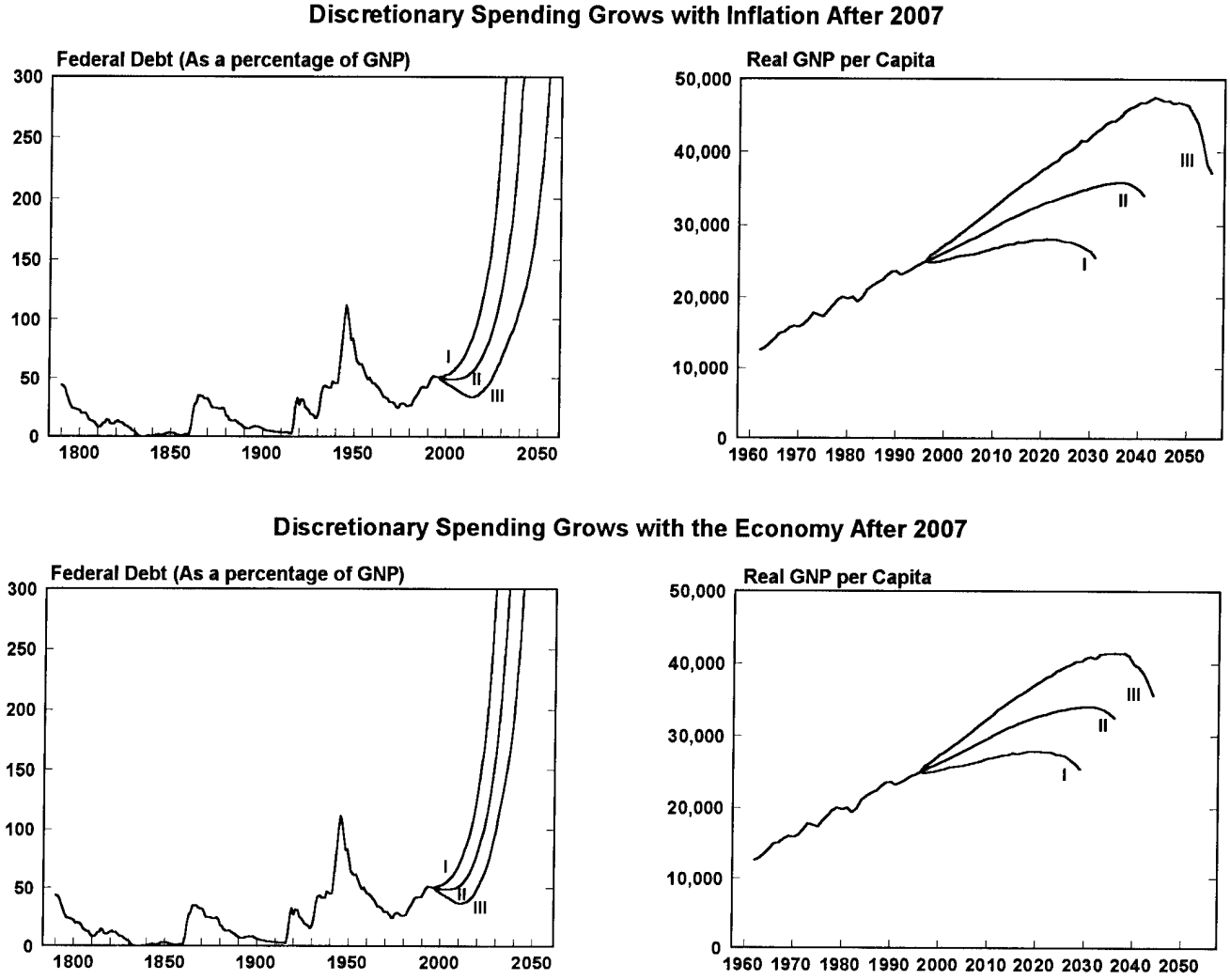
SOURCE: Congressional Budget Office.

NOTES: Simulations without economic feedbacks assume that deficits do not affect either interest rates or economic growth. Projections with feedbacks allow deficits to push up interest rates and lower the rate of economic growth.

GDP = gross domestic product; NIPA = national income and product accounts; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

would continue to rise rapidly in the years thereafter, growing to between 13 percent and 18 percent of GDP in 2050. By any standard, the deficit would be large. In fact, since the nation's founding, the U.S. deficit has exceeded 10 percent of GDP for only a few brief periods—and those occurred during major wars.

Figure 2.
Projections of Federal Debt and Real GNP per Capita, Using the Assumptions of the Base Scenario with Economic Feedbacks



SOURCE: Congressional Budget Office.

NOTES: Simulations I, II, and III are based on alternative assumptions about population and productivity growth (see Box 3 on page 15). Simulation II is the base scenario, which assumes that the population grows according to the midrange path of the Social Security Administration and that total factor productivity grows at 1 percent annually. Simulations I and III are defined so that two-thirds of the 750 alternative simulations fall between them. Thus, the chance of an outcome better than Scenario III is about 15 percent; correspondingly, the chance of an outcome worse than Scenario I is also about 15 percent.

The projections of real GNP per capita are truncated when debt held by the public exceeds 300 percent of gross national product.

GNP = gross national product.

In turn, the total amount that the government owed would soar to historic levels. Since 1790, the United States has let its federal debt exceed 100 percent of GDP only once for a brief period during World War II. Moreover, until the 1980s, the ratio of debt to GDP had never risen significantly during a period of peace and prosperity. But under the base scenario, the national debt would increase from 50 percent of GDP in 1996 to 122 percent in 2035 if discretionary spending grew with inflation. If it grew with the economy, the debt would surge to 158 percent of GDP. Because the debt would be forever growing faster than the economy, it would ultimately become unsustainable.

Little of the projected growth in federal debt would be used to finance productive government investment. Instead, the growth in borrowing would be used largely to increase consumption by elderly people and to pay interest on the debt (see Table 4). In CBO's simulations, outlays for Social Security would increase from 5 percent of GDP in 1996 to 6 percent in 2050; Medicare spending would rise from 2 percent of GDP in 1996 to 8 percent in 2050. Federal Medicaid spending would move upward from 1 percent of GDP in 1996 to about 3 percent in 2050, reflecting the growth in the cost of health care per enrollee and the increasing number of elderly people who need nursing home care. Revenues and other noninterest outlays would remain a relatively constant share of GDP.

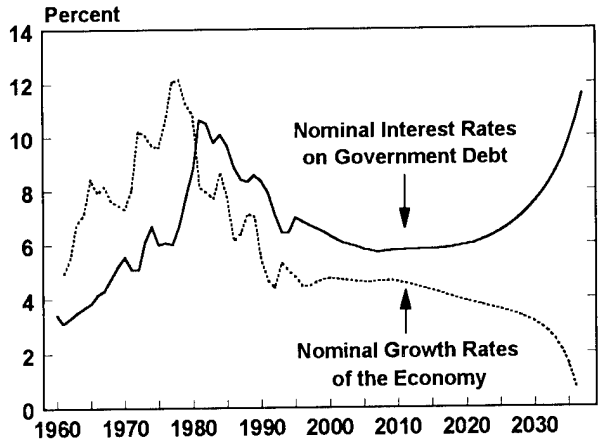
Simulations with Economic Feedbacks

The long-term budget outlook becomes even bleaker when the simulations include the effect of the deficit on the economy. Under the optimistic assumption that discretionary outlays would grow with inflation, the federal deficit would increase to 18 percent of GDP in 2035 (see Table 5). If they grew with the economy, the federal deficit would climb to 30 percent of GDP.

Those increases would clearly push federal debt to unsustainable levels. Eventually, they would greatly weaken the economy and end the upward trend in real GNP per capita that the United States has enjoyed over its history (see Figure 2). If discretionary outlays grew with inflation, federal debt would rise to 171 percent of GDP by 2035; if they grew with the economy, federal debt would surge to almost 2.5 times GDP. With federal debt growing so rapidly, the economy would enter a period of accelerating decline.

Economic feedbacks intensify the nation's long-term budgetary problems for two reasons. First, the cost of interest on the debt would soar as interest rates went up and the stock of federal debt kept getting larger. Because interest costs would be growing continually faster than the economy's income, they would eventually reach an unsustainable level. Indeed, the growth of debt would accelerate out of control as the government attempted to finance its interest payments by issuing more debt. With each new round of debt, the rate of interest that the government paid would move up, and the rate of economic growth would move down (see Figure 3). Since the 1980s, interest rates have exceeded the rate of economic growth, but that situation would grow much worse because interest payments on the debt would be rising faster than the economy's ability to service that debt. Eventually, the government would find itself caught in a vicious circle of issuing ever larger amounts of debt to pay for ever higher interest charges.

Figure 3.
Projections of Nominal Interest Rates and Economic Growth, Using the Assumptions of the Base Scenario



SOURCE: Congressional Budget Office.

NOTE: Discretionary spending is assumed to grow with the economy. Nominal growth rates are smoothed using a centered, three-year moving average. Economic growth rates are measured as percentage changes in nominal gross national product. Interest rates on government debt are based on a weighted average of rates on all maturities of debt.

Table 4.
Projections of Federal Receipts and Expenditures, Using the Assumptions of the Base Scenario Without Economic Feedbacks, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
Discretionary Spending Grows with Inflation After 2007											
NIPA Receipts	21	20	20	20	20	20	20	20	20	20	20
NIPA Expenditures											
Federal consumption expenditures	6	5	5	4	4	4	4	3	3	3	3
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	6	6	6	6
Medicare	2	3	4	4	5	6	7	7	8	8	8
Medicaid	1	1	2	2	2	2	2	3	3	3	3
Other	5	5	4	4	4	4	4	4	4	4	3
Net Interest	3	3	3	3	3	3	4	5	6	7	9
Total	22	22	22	23	24	25	27	28	30	31	33
NIPA Deficit	2	2	2	3	4	5	7	8	10	11	13
Debt Held by the Public	50	48	48	50	55	65	80	100	122	145	193
Discretionary Spending Grows with the Economy After 2007											
NIPA Receipts	21	20	20	20	20	20	20	20	20	20	20
NIPA Expenditures											
Federal consumption expenditures	6	5	5	5	5	5	5	5	5	5	5
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	6	6	6	6
Medicare	2	3	4	4	5	6	7	7	8	8	8
Medicaid	1	1	2	2	2	2	2	3	3	3	3
Other	5	5	4	4	4	4	4	4	4	4	4
Net Interest	3	3	3	3	3	4	5	6	8	9	12
Total	22	22	22	23	25	27	29	31	33	35	39
NIPA Deficit	2	2	2	3	5	7	9	11	13	15	18
Debt Held by the Public	50	48	48	50	59	75	97	125	158	193	267
Memorandum:											
Gross Domestic Product (Trillions of dollars)	7.6	9.1	11.4	14.4	18.0	22.4	27.7	34.3	42.6	52.8	80.5

SOURCE: Congressional Budget Office.

NOTES: Simulations without economic feedbacks assume that deficits do not affect either interest rates or economic growth.

GDP = gross domestic product; NIPA = national income and product accounts.

Table 5.
Projections of Federal Receipts and Expenditures, Using the Assumptions of the Base Scenario with Economic Feedbacks, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
Discretionary Spending Grows with Inflation After 2007											
NIPA Receipts	21	20	20	20	20	20	20	20	21	21	n.c.
NIPA Expenditures											
Federal consumption expenditures	6	5	5	4	4	4	4	4	3	3	n.c.
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	7	7	7	n.c.
Medicare	2	3	4	4	5	6	7	7	8	8	n.c.
Medicaid	1	1	2	2	2	2	2	3	3	3	n.c.
Other	5	5	4	4	4	4	4	4	4	4	n.c.
Net interest	3	3	3	3	3	4	5	8	14	27	n.c.
Total	22	22	22	23	24	26	28	32	38	53	n.c.
NIPA Deficit	2	2	2	3	4	6	8	12	18	31	n.c.
Debt Held by the Public	50	48	48	50	56	68	89	121	171	266	n.c.
Memorandum:											
Gross Domestic Product (Trillions of dollars)	7.6	9.1	11.4	14.4	17.9	22.0	26.6	32.1	38.3	44.2	n.c.
Discretionary Spending Grows with the Economy After 2007											
NIPA Receipts	21	20	20	20	20	20	20	21	21	n.c.	n.c.
NIPA Expenditures											
Federal consumption expenditures	6	5	5	5	5	5	5	5	5	n.c.	n.c.
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	7	7	n.c.	n.c.
Medicare	2	3	4	4	5	6	7	7	8	n.c.	n.c.
Medicaid	1	1	2	2	2	2	2	3	3	n.c.	n.c.
Other	5	5	4	4	4	4	4	4	4	n.c.	n.c.
Net interest	3	3	3	3	3	4	7	12	24	n.c.	n.c.
Total	22	22	22	23	25	28	31	38	51	n.c.	n.c.
NIPA Deficit	2	2	2	3	5	7	11	17	30	n.c.	n.c.
Debt Held by the Public	50	48	48	51	60	79	110	159	250	n.c.	n.c.
Memorandum:											
Gross Domestic Product (Trillions of dollars)	7.6	9.1	11.4	14.4	17.9	21.9	26.4	31.4	36.4	n.c.	n.c.

SOURCE: Congressional Budget Office.

NOTES: Simulations with economic feedbacks allow deficits to push up interest rates and lower the rate of economic growth.

GDP = gross domestic product; NIPA = national income and product accounts; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

The second reason that economic feedbacks intensify the nation's long-term budgetary problems concerns the baby boomers. The feedbacks weaken the economy, and as a result, less income is available to finance retirement benefits for the baby-boom generation. Under current law, benefits for new cohorts of retirees grow at the same rate as average wages in the economy, but benefits for previous cohorts grow at the rate of inflation. Thus, even though wages would grow more slowly as the economy weakened, federal spending for Social Security benefits would be affected only gradually. Consequently, federal outlays for Social Security would absorb a much larger fraction of the economy's income. (The Medicare and Medicaid programs do not pose quite the same problem because spending for them is not linked to past wages. Instead, CBO assumed that as the growth of wages slowed, the growth of health care costs would also slow.)

A detailed statistical accounting of the uncertainty in the assumptions about productivity and population does not overturn CBO's basic finding. To the contrary, that analysis shows that the chances are low that the nation could grow out of its long-term budgetary problems with favorable developments in productivity or demographics (see Box 3).

CBO's simulations show the economy responding smoothly to the rapidly rising debt. In actuality, however, those adjustments would probably be much more disorderly. Foreign investors might suddenly stop investing in U.S. securities, causing the exchange value of the dollar to plunge, interest rates to shoot up, and the economy to tumble into a severe recession. (Those developments have occurred in some countries with rapidly growing government debt.) Higher levels of debt might also ignite fears of inflation in the nation's financial markets, which would push up interest rates even further. Amid the anticipation of declining profits and rising rates, the stock market might collapse, and consumers—fearing economic catastrophe—might suddenly reduce their spending.[4] Moreover, severe economic problems in this country could spill over to the rest of the world and might seriously affect the economies of U.S. trading partners, undermining international trade.

Yet those disturbing simulations are not predictions of what will inevitably happen. Policymakers would surely take action before the economy was driven into such dire straits. As Herbert Stein, former Chairman of the Council of Economic Advisers, once said, "If something cannot go on forever, it will stop." Nonetheless, the simulations illustrate what might occur if no changes were made in policy—and they demonstrate the importance of controlling the growth of federal debt before it gets out of hand.

A Measure of the Imbalance in U.S. Budget Policy

The underlying budgetary imbalances, though daunting, are not insurmountable. The projections are so severe in part because of the compounding effects of interest: the government would be borrowing to cover the shortfall between revenues and spending—and then borrowing again to pay the interest on that debt. Because escalating interest costs can significantly amplify even a relatively small imbalance between revenues and outlays, the projections do not necessarily imply that resolving the nation's budgetary problems would require huge changes in spending or revenues.

To summarize the magnitude of the budgetary imbalance, CBO used a standard measure for assessing the sustainability of a government's policies.[5] That measure is based on a hypothetical experiment to determine by how much rates of taxation would have to be permanently raised today to prevent the debt from exceeding its current percentage of GDP for the foreseeable future.[6] Larger imbalances require higher tax rates. Expressing the imbalance in terms of a tax in

4. Some people might dramatically increase their saving in the face of economic collapse. In the extreme, if consumers offset all of the increase in the deficit with higher levels of private saving and invested their savings in the United States, the deficit would have no effect on GDP. But assuming that consumers would behave that way is unrealistic and risky. It is doubtful that such forward-looking people would invest in the United States, given the risk of a stock market collapse or an increase in inflation. Nonetheless, any prediction about saving under those extreme conditions is highly uncertain.

5. Olivier Blanchard, Jean-Claude Chouraqui, Robert P. Hagemann, and Nicola Sartor, "The Sustainability of Fiscal Policy: New Answers to an Old Question," *OECD Economic Studies*, no. 15 (Autumn 1990).

6. The additional revenues initially result in large budget surpluses, which reduce the level of the debt. As the baby boomers retire, the budget moves back into deficit, and debt climbs. The tax increase is sufficient to keep the level of debt at or below 50 percent of GDP from 1997 through 2070.

Box 3.
Statistical Evaluation of Alternative Assumptions About Population and Productivity

The long-term projections presented in this chapter are highly uncertain. They depend critically on assumptions about birth and death rates, immigration, marriage rates, participation in the labor force, productivity growth, interest rates, saving behavior, and the general structure of the economy. Changes in those assumptions would affect the quantitative results that the Congressional Budget Office (CBO) found; choosing more optimistic assumptions would delay the projected emergence of serious trouble. But trouble eventually shows up, even when optimistic assumptions are used.

The assumptions about demography and total factor productivity are among the most influential variables in the long-term model. For example, the budget picture would be brighter if the labor force grew more quickly, the population of retirees grew more slowly, or productivity advanced at a faster pace. To assess the effects of alternative assumptions about demography and productivity, the Congressional Budget Office simulated its long-term model under 750 alternative assumptions for the demographic structure of the population and total factor productivity. The alternative assumptions were generated from statistical models that were based on the historical behavior of those two variables, and the range of the alternatives reflected the likelihood that the various periods of U.S. history would repeat themselves. Thus, the alternatives explicitly incorporate the chance that a period of exceptional prosperity, such as the one the nation enjoyed in the three decades after World War II, will come again.

From those simulations, CBO generated a distribution of alternative paths for the budget and the economy. For illustrative purposes, CBO selected high- and low-debt alternatives so that two-thirds of the 750 simulations lay between the two paths. That spread represents a common measure of uncertainty. The slower the growth of total factor productivity and the labor force and the faster the growth of the retiree population, the higher would be the ratio of debt to gross domestic product (GDP).

The main conclusions of this chapter survive even in the face of the full uncertainty that accompanies assumptions about the growth of the population and productivity. In the pessimistic high-debt path, federal debt exceeds 200 percent of gross national product (GNP) as early as 2026 if discretionary spending grows with the economy; in the optimistic low-debt path, the point when the debt exceeds 200 percent of GNP is delayed to 2040. Almost all paths show federal debt eventually growing out of control (see table below).

The simulations can also be used to estimate the likelihood that the nation could grow out of its debt problems without having to take action on the budget. Based on the 750 simulations, the chance that the ratio of debt to GDP will be less than 200 percent by 2035 is only 50 percent if discretionary spending grows with inflation, and only 32 percent if it grows with the economy (see the table below). Those probabilities drop below 10 percent when the horizon is extended to 2070. Moreover, the chance that real GNP per capita will have entered a persistent downward trend is 36 percent to 53 percent in 2035 and above 90 percent by 2070.

1. The alternative population assumptions were provided by Ronald D. Lee of the University of California, Berkeley, and Shripad Tuljapurkar of Stanford University. See Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 248 (December 1994), pp. 1175-1189.

Estimated Probabilities of Adverse Outcomes Using the Assumptions of the Base Scenario, Calendar Years 1996-2070 (In percent)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050	2070
Discretionary Spending Grows with Inflation After 2007												
Federal Debt Rises Above 200 Percent of GDP	0	0	0	0	0	0	8	27	50	65	83	92
Real GNP per Capita Declines for Three Consecutive Years	0	1	1	2	2	4	9	17	36	55	77	91
Discretionary Spending Grows with the Economy After 2007												
Federal Debt Rises Above 200 Percent of GDP	0	0	0	0	0	0	13	42	68	83	94	99
Real GNP per Capita Declines for Three Consecutive Years	0	1	1	2	2	4	12	27	53	73	92	98

SOURCE: Congressional Budget Office.
NOTE: GDP = gross domestic product; GNP = gross national product.

Table 6.
Changes in CBO's Measure of the Long-Term Imbalance in the Federal Budget

	Percentage of GDP
May 1996 Estimate of the Imbalance[a]	5.4
Less: Changes in the 10-year Projections	0.8
Less: Changes in the Long-Term Assumptions	0.5
March 1997 Estimate of the Imbalance[a]	4.1

SOURCE: Congressional Budget Office.

NOTE: GDP = gross domestic product.

a. The long-term imbalance is measured as the size of the permanent tax increase that would be needed to keep the ratio of federal debt to GDP at or below its current level from 1997 through 2070.

crease is not the only way to describe the situation—measuring it in terms of spending cuts is another—but it defines the problem in a convenient way.

The experiment is hypothetical because it would be impractical to control the growth of the debt with a sudden, major change in tax rates or spending. Moreover, the estimate does not account for the effects that increased marginal tax rates would have on incentives to work and save. Nevertheless, it provides a rough measure of the size of the "hole" in the budget and is similar in spirit to other summary measures of budgetary imbalances. For example, the trustees of the Social Security trust funds routinely estimate by how much payroll taxes would have to be raised to ensure a sufficient balance in the funds in 2070 to meet the following year's projected expenditures. Another approach, generational accounting, calculates the burden on future generations imposed by current budget policy.[7]

Using the sustainability measure, the budgetary imbalances are significant but manageable. Assuming that discretionary spending grew with the economy, CBO estimated that permanently increasing revenues (or reducing noninterest outlays) by 4.1 percent of GDP would keep the debt (as a percentage of GDP) at or below its current level for the foreseeable future (see Table 6). Since revenues are now about 20 percent of GDP, that amount corresponds to about 20 percent of current revenues.

Waiting to resolve the long-term imbalances in the budget would only increase the size of the problem. If policymakers waited five years before taking action on the budget, the size of the tax increase needed to keep the ratio of debt to GDP at or below current levels in the long run would increase by about 15 percent; if action was delayed 20 years, the long-term imbalances would climb by about 60 percent. Those results arise because federal debts mount as action is delayed, which crowds out capital and increases the interest cost of the debt. Moreover, if the problem was resolved through increases in marginal tax rates, delay could also reduce incentives to work and save. Those effects, however, are not included in the estimate.

Revisions in the Long-Term Outlook

The long-term outlook is slightly brighter than it was in May 1996, when CBO reported that the long-term budgetary imbalances were 5.4 percent of GDP; they now amount to just 4.1 percent.

Revisions in the long-term outlook can come from two sources: changes in CBO's 10-year projections of the budget, and changes in the assumptions underlying CBO's long-term simulations after 2007. The 10-year projections are important because they determine the level of spending, revenues, and the deficit in 2007. Other things being equal, the smaller the deficit in 2007, the brighter the long-term outlook.

About two-thirds of the improvement in the long-term outlook since last May stems from the improved outlook for the deficit over the next 10 years. As discussed in CBO's *Economic and Budget Outlook: Fiscal Years 1998-2007*, the outlook for the deficit has improved because of reductions in the projected growth of Medicare and Medicaid, enactment of new legislation (such as the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, otherwise known as welfare reform), and improvements in the outlook for the economy. The revised outlook for the baseline deficit reduces the long-term imbalance in the budget by 0.8 percent of GDP.

7. Congressional Budget Office, *Who Pays and When? An Assessment of Generational Accounting* (November 1995).

Box 4.
The Administration's Proposal

In February, the President submitted his budgetary proposals for fiscal year 1998 that the Administration estimates will produce a $17 billion budget surplus in 2002. The budget includes an analysis of the long-term impacts of those proposals. It concludes that the budget could be in surplus for nearly 20 years after 2002, if those proposals were enacted.[1]

In its February 1997 report, *A Preliminary Analysis of the President's Budgetary Proposals for Fiscal Year 1998*, the Congressional Budget Office (CBO) estimated that instead of a surplus there would be a deficit of $69 billion in 2002 under the basic policies proposed by the President. The President also proposed alternative policies that were designed to eliminate any size deficit that CBO might project for 2002. Those alternative policies would rescind most of the President's tax cuts and reduce the proposed level of spending enough to eliminate the projected deficit in 2002 under CBO's economic and technical assumptions. Because the Administration has not specified the alternative policies for years after 2002, CBO cannot estimate whether the budget would remain balanced after 2002.

In addition to the questionable assumption that the President's proposals will produce surpluses in 2002 through 2007, the Administration's analysis of the long-term effects of the President's proposals depends on several assumptions about the growth of spending that could prove to be optimistic. The Administration assumes—as CBO does in its long-term analysis and as the Medicare trustees do—that the growth in costs per beneficiary in the Medicare program will slow in the long run. In addition, the Administration assumes that discretionary spending will grow no faster than overall inflation, which implies that discretionary spending will decline from 7.6 percent of gross domestic product in 1996 to 4.2 percent in 2020 and to just 2.9 percent in 2050. Although that assumption is reasonable when making 10-year projections, it is harder to maintain over a period of several decades, especially in the face of a growing population and expanding real incomes per capita.

Another assumption that seems optimistic affects the analysis of the budget beyond the 20-year horizon. In the near term, the Administration assumes that eliminating the deficit will produce a fiscal dividend—budgetary savings stemming from lower interest rates, slightly higher real growth, and increased corporate profits. In the longer term, however, it does not apply a corresponding fiscal penalty when the deficit begins to grow again after the baby boomers retire.

Despite the uncertainty of the Administration's long-term projections, reducing the deficit in the near term would brighten the nation's long-term budget outlook. Thus, although the President's proposals might not eliminate the deficit by 2002 and keep the budget balanced for the next 20 years, they would still improve the long-term situation.

1. "Analytical Perspectives," *Budget of the United States Government, Fiscal Year 1998* (February 1997), pp. 23-30.

CBO also changed some of the technical assumptions in its long-term budget model since last May. Those technical changes account for the rest of the improvement in the long-term imbalance. Virtually all of that improvement stems from changing the assumption about the trend growth in total factor productivity after 2007.

Comparison with Other Forecasters

CBO is not alone in raising concerns about the long-term implications of the current set of commitments that the federal government has implicitly made with its budget policies. Several other organizations and academic analysts have voiced similar warnings that U.S. budget policy cannot be sustained indefinitely.[8]

Since 1992, the General Accounting Office has presented results showing that, if left unchecked, the federal budget deficit could grow to over 23 percent of GDP by 2025. GAO's model incorporates some eco-

8. General Accounting Office, *Budget Policy* and *The Deficit and the Economy*; Bipartisan Commission on Entitlement and Tax Reform, *Final Report to the President* (January 1995); *Budget of the United States Government*.

nomic interactions between the deficit and the economy, although it holds interest rates constant.

In 1995, the Bipartisan Commission on Entitlement and Tax Reform weighed in with another alarm. The commission saw growing imbalances between spending and revenues in the early decades of the 21st century unless changes were made to federal entitlement programs. Using a model without economic feedbacks, the commission projected budget deficits in excess of 15 percent of GDP by 2030. Its projections assumed that discretionary spending grew with the economy.

In February 1997, the Administration released an updated version of its long-term budget projections, which reflected the improved outlook for the budget over the next 10 years. Although that revision reduces some of the long-term imbalance in the budget, the Administration continues to see significant long-term budgetary problems under current policy. The Administration's calculations now show that, unless policies were changed, the deficit would grow to 4 percent in 2020 and 17 percent in 2050. (In February 1996, the Administration had expected that the deficit would grow to 6 percent by 2020 and 26 percent in 2050.) The Administration's projections are more optimistic than CBO's because it assumes that discretionary spending would grow only with inflation, and it develops its base projections without economic feedbacks. (See Box 4 for a discussion of the Administration's analysis of the effects of the President's proposal on the long-term outlook.)

Sustainable Budget Strategies

To avoid the adverse economic consequences described above, the ratio of debt to GDP must be brought under control. Two possible budget strategies would meet that goal: the first permanently balances the budget by 2002; the second holds the ratio of the deficit to GDP roughly at its current level. Both strategies are sustainable because they prevent the debt from ever growing faster than the economy. Other approaches are possible, but those two examples illustrate some of the implications such strategies have for the budget and the nation's economic outlook.

A budget that was permanently balanced would freeze the level of federal debt and continuously diminish the ratio of debt to GDP (see Table 7).[9] As the economy grew, the ratio of debt to GDP would slowly decline from 50 percent of GDP in 1996 to 9 percent in 2050. Over that period, the deleterious effects of the debt on interest rates and economic growth would gradually disappear. A balanced budget would also put the United States back on its historical path, with debt declining as a share of GDP during periods of peace and prosperity. However, a ratio of debt to income as low as 9 percent would be unusual in modern history. Indeed, the debt ratio has not been so low since America's entry into World War I.

Even if the budget was not permanently balanced, the worst aspects of the base scenario could be avoided if budget policies were altered so that the deficit did not grow faster than GDP. One way to achieve that goal would be to stabilize the NIPA deficit at its current share of GDP, about 1.7 percent. If the deficit was fixed at that level, the debt would eventually stabilize at about 44 percent of GDP.

Setting goals for the ratio of debt to GDP is not a new idea. The 15-member nations of the European Union have already pledged to reduce their debt-to-income and deficit-to-income ratios. Goals are specified by the Maastricht Treaty, which aims to create a monetary union with a single European currency. With some exceptions, the treaty requires that a nation wishing to join the union must bring its combined debt from all levels of government to 60 percent of GDP or less and its combined deficit to 3 percent of GDP or less.

Implications for the Economy

Compared with the base scenario, the long-term economic outlook would be significantly brighter if policymakers either balanced the budget permanently or stabilized the deficit at current percentages of GDP. By 2035, gross national product per capita would be 23 percent higher than in the base scenario, and that gap would grow substantially in the years thereafter (see

9. Although the model technically assumes that the budget is balanced each year, similar results would be seen if the government allowed the budget to move into deficit during recessions—provided that the budget moved into surplus during expansions and was balanced on average.

Table 8). Of the two strategies, the balanced budget would provide the greater long-term economic gains, but at the cost of more near-term sacrifice.

The economic benefits of stabilizing the deficit are not as great as those of balancing the budget, but the differences are not large. Stabilization implies that by 2035, real GNP would be about 2 percent less than it would be under the balanced budget. That difference in GNP arises because some capital investment would still be crowded out under a deficit policy.

Table 7.
Projections of the Deficit and Debt Held by the Public Under Alternative Budget Strategies, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Permanently Balance the Budget												
Primary Deficit[a]	-1.7	-2.2	-2.1	-1.7	-1.4	-1.1	-0.9	-0.8	-0.7	-0.6	-0.5	-0.5
Interest on the Debt	3.4	2.9	2.1	1.7	1.4	1.1	0.9	0.8	0.7	0.6	0.5	0.5
NIPA Deficit	1.7	0.7	0	0	0	0	0	0	0	0	0	0
Debt Held by the Public	50	46	37	30	25	21	18	15	13	12	10	9
Stabilize the Ratio of the Deficit to GDP												
Primary Deficit[a]	-1.7	-1.3	-1.1	-1.0	-0.9	-0.8	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6
Interest on the Debt	3.4	3.0	2.8	2.7	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.3
NIPA Deficit	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Debt Held by the Public	50	48	48	46	45	45	44	44	44	44	44	44
Continue with the Base Scenario[b]												
Primary Deficit[a]	-1.7	-1.4	-1.0	0.1	1.4	2.7	3.9	4.9	5.2	n.c.	n.c.	n.c.
Interest on the Debt	3.4	3.0	2.8	2.9	3.5	4.7	7.1	12.0	24.6	n.c.	n.c.	n.c.
NIPA Deficit	1.7	1.7	1.8	3.0	4.9	7.4	11.0	16.9	29.8	n.c.	n.c.	n.c.
Debt Held by the Public	50	48	48	51	60	79	110	159	250	n.c.	n.c.	n.c.

SOURCE: Congressional Budget Office.

NOTES: The simulations include economic feedbacks (deficits push up interest rates and lower the rate of economic growth).

GDP = gross domestic product; NIPA = national income and product accounts; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

a. The primary deficit is revenues minus noninterest spending. Negative numbers indicate a budget surplus.

b. The base scenario assumes that discretionary spending grows with the economy.

Table 8.
Projections of Real GNP per Capita Under Alternative Budget Strategies

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
	In Thousands of 1992 Dollars per Capita[a]										
Permanently Balance the Budget	25.2	26.3	28.2	30.1	32.2	34.1	36.0	38.2	40.9	43.9	50.4
Stabilize Ratio of Deficit to GDP	25.2	26.3	27.9	29.8	31.8	33.6	35.4	37.5	40.0	42.9	49.2
Continue with the Base Scenario[b]	25.2	26.3	27.9	29.7	31.4	32.7	33.6	34.1	33.2	n.c.	n.c.
	Percentage Above Real GNP per Capita in the Base Scenario										
Permanently Balance the Budget	0	0	1	1	3	4	7	12	23	n.c.	n.c.
Stabilize Ratio of Deficit to GDP	0	0	0	0	1	3	5	10	21	n.c.	n.c.

SOURCE: Congressional Budget Office.

NOTE: GNP = gross national product; GDP = gross domestic product; n.c. = not computable.

a. Inflation adjustment uses a chain-type index.

b. The base scenario assumes that discretionary spending grows with the economy.

Implications for the Budget

Permanently balancing the budget or stabilizing the deficit would require significant changes in the government's policies. Those changes could be achieved, but they would involve paring entitlement benefits for elderly people, sharply reducing other spending, or increasing taxes.

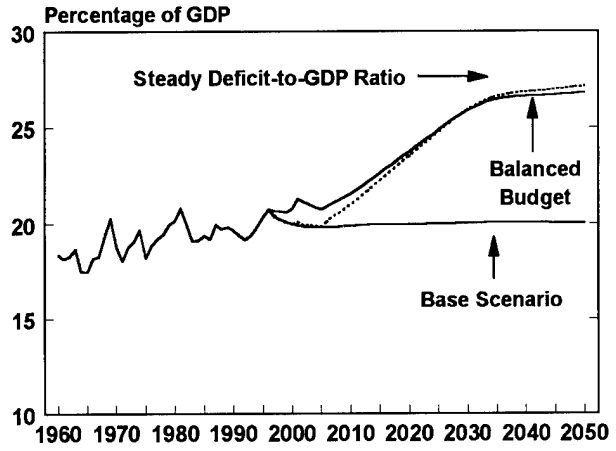
Interest Costs. Both budget strategies would significantly reduce the amount required to service the debt compared with the base scenario. However, interest costs would decline more with a balanced budget than with a policy of permanent deficits.

With a balanced budget, the interest on the debt would eventually decline to insignificance as a share of GDP. In CBO's projections, that cost drops from 3.4 percent of GDP in 1996 to 0.5 percent in 2050 (see Table 7). The decline comes from fixing the debt in dollar terms after 2002 and from having interest rates on government debt fall relative to the rate of growth of the economy. By contrast, when the ratio of the deficit to GDP is held to current levels, interest costs do not decline as much. Instead, they stabilize at about 2.3 percent of GDP.

The pattern for interest payments has implications for the rest of the budget—the so-called primary budget. To maintain balance, the primary budget must show a surplus that exactly matches the interest payments on the debt.[10] Thus, as interest payments declined over time, the surplus required in the rest of the budget would also fall. The projections show that the primary surplus required under a balanced budget would be 2.1 percent of GDP in 2005 but would drop to 0.5 percent

10. Another way to think about the primary budget is that it shows all revenues and all spending for "programs" but not for interest on the debt. A primary surplus then means the amount of revenues in excess of outlays for programs.

Figure 4.
Projections of Revenues if Tax Increases Are Used to Achieve Budget Goals



SOURCE: Congressional Budget Office.

NOTE: The balanced budget path assumes that the budget is balanced by 2002 and remains balanced thereafter. The path with the steady ratio of the deficit to gross domestic product assumes that the ratio is stabilized at its current level. The projections of the base scenario use the balanced budget economic assumptions. Receipts are as defined in the national income and product accounts.

GDP = gross domestic product.

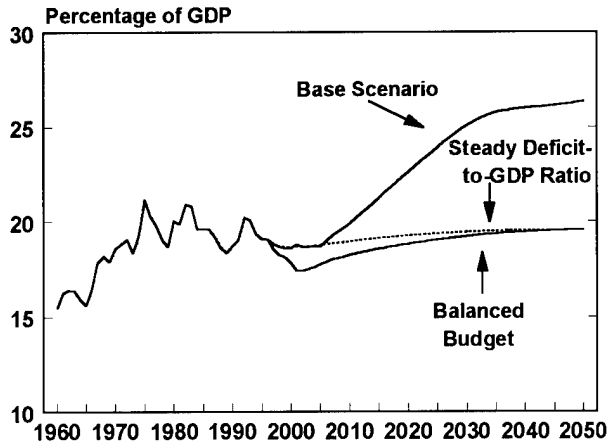
by 2050. If the deficit was stabilized, the required surplus in the rest of the budget would stabilize at about 0.6 percent of GDP.

Required Policy Changes. Both strategies would require significant changes in the budget. If the budget was balanced (or the ratio of the deficit to GDP stabilized) through tax increases alone, those increases would be small in the early years but would grow considerably as the baby boomers began to retire (see Figure 4). To keep the budget balanced, federal revenues would have to rise from 21 percent of GDP in 1996 to about 27 percent in 2050.[11] Stabilizing the deficit would require smaller tax increases at first than would balancing the budget, but the additional interest costs would eventually require slightly larger increases. (That scenario does not describe an immediate tax increase such as the one mentioned earlier, but rather a gradual increase that is sufficient to keep the budget balanced.)

That result may seem surprising at first because it appears to be at odds with the common perception that deficit spending is an "easier" policy than a balanced budget. That view is certainly correct for the short run, when differences in fiscal policy have little effect on federal interest costs. But over periods as long as 30 years, a deficit policy eventually carries higher interest costs than a balanced budget policy—and those additional costs ultimately have to be financed. Although deficit spending expands current consumption above what would otherwise have been possible, that additional consumption is achieved only by sacrificing some future consumption.

Substantial reductions in current commitments for spending would also be required if budgetary actions focused solely on the spending side of the ledger (see Figure 5). Projections using the base scenario with balanced budget economic assumptions show noninterest

Figure 5.
Projections of Noninterest Outlays if Spending Cuts Are Used to Achieve Budget Goals



SOURCE: Congressional Budget Office.

NOTE: The balanced budget path assumes that the budget is balanced by 2002 and remains balanced thereafter. The path with the steady ratio of the deficit to gross domestic product assumes that the ratio is stabilized at its current level. The projections of the base scenario use the balanced budget economic assumptions. Noninterest outlays are as defined in the national income and product accounts.

GDP = gross domestic product.

11. Those estimates probably understate the actual size of the tax increase that would be needed because they do not account for the adverse impact that increasing marginal income (or payroll) tax rates would have on incentives to work and save.

outlays increasing from 19 percent in 1996 to 26 percent in 2050.[12] To keep the budget balanced, noninterest spending would have to be cut sharply at first, and it would decline to 17 percent of GDP by 2002. But as interest costs fell, spending under a balanced budget could rise to slightly less than 20 percent of GDP in 2050. By contrast, to keep the ratio of the deficit to GDP steady, noninterest spending would have to be held at about 19 percent of GDP throughout the projection period.

Neither strategy could be carried out by focusing solely on cutting discretionary spending. Under either plan, the required changes in the budget would exceed total outlays for the discretionary accounts around 2030. The long-term budgetary situation cannot be stabilized solely by limiting the growth of this category of spending. Stability would require reductions in the growth of other spending categories or increases in taxes.

Balancing the Budget by 2002

The discussion so far has examined the implications of setting overall deficit targets for the budget and the economy. In developing a budget, however, the Congress must move beyond setting goals to making changes in specific laws. During the past year, both the Congress and the President advanced plans to balance the budget by 2002. Those proposals raise a number of issues. Would balancing the budget by 2002 by itself solve the long-term budgetary problem? Or would additional policy changes be needed? Although it is impossible to project the precise long-term impacts of specific legislative initiatives, CBO's long-range model can provide a rough assessment of how changes in policy might affect the budget over the next several decades.

To address those issues, CBO had to make specific assumptions about the path of cuts in the deficit and the distribution of those cuts among the various budget categories. Those assumptions affect the long-term outlook: other things being equal, the sooner the deficit is cut and the more that the cuts are focussed on fast-growing programs, the brighter the long-run outlook.

CBO's assumed path is broadly consistent with the plans advanced by the President and the Congress during the 104th Congress, although the allocation of the cuts in the deficit is somewhat different. In CBO's path, the cuts to the deficit roughly follow what CBO used in its estimate of the fiscal dividend in Chapter 4 of the *Economic and Budget Outlook: Fiscal Years 1998-2007*. (Balancing the budget will produce favorable changes in the economy, which can increase revenues and reduce spending; those resulting changes are the so-called fiscal dividend.) CBO assumed that the deficit would be reduced $17 billion in fiscal year 1998, a sum that would climb sharply in fiscal year 1999 and fiscal year 2000 and climb more slowly thereafter to reach $188 in fiscal year 2002, bringing the budget into balance in that year. In the long-term simulations, CBO assumed that the budget would remain in balance from 2003 to 2007; after 2007, spending and revenues were assumed to grow at the same rate as they do in the base scenario. The simulation thus addresses the question of whether balancing the budget in the near term—but not dealing with the long-term pressures on the budget—will solve the nation's long-run problems.

In calculating the fiscal dividend, CBO did not have to make any specific assumptions about the mix of policies that would be used to balance the budget. All that was needed for that calculation was the total amount of deficit reduction. But to examine the effects of balancing the budget on the long-term outlook, CBO had to make assumptions about how deficit reduction would affect the levels of revenues and spending for particular programs from 1997 to 2007. In CBO's assumed path, reductions in the growth of Medicaid spending account for 5 percent of the deficit cuts; the rest is evenly divided between discretionary spending and Medicare.

The simulations show that balancing the budget by 2002 would substantially reduce the long-term budgetary imbalances in the United States, but it would not be enough to eliminate them (see Table 9). Although the budget would remain close to balance for another 10 years or so, the demands of the retired baby boomers on the Social Security, Medicare, and Medicaid programs during the 2020s would significantly increase annual budget deficits. By 2035, federal debt would climb to 91 percent of GDP and would grow rapidly thereafter.

12. Balanced budget economic assumptions are used here because they implicitly incorporate the fiscal dividend.

By 2055, it would exceed levels that the economy could reasonably support.

That situation obviously would be much better than what the base scenario depicts. CBO estimates that the long-term imbalances in the budget would be reduced from 4.1 percent of GDP to 2.3 percent. Thus, balancing the budget by 2002 with cuts to the level—but not the long-run growth rate—of spending would resolve about 45 percent of the long-term problem, given the package of cuts that CBO assumed.

Other packages would produce different estimates. For example, if the budget was balanced solely through reductions in discretionary spending, it would eliminate only about one-third of the long-term problem. That result illustrates one of CBO's fundamental conclusions: deficit-reduction packages that focus on fast-growing programs (like Medicare, Medicaid, or Social Security) are much more effective in resolving the long-term imbalances than those that do not.

Regardless of how the budget is balanced in the near term, additional budgetary action—such as cutting back on entitlements for the elderly or raising taxes—would still be needed to put the budget on a sustainable path.

Table 9.
Projections of Federal Receipts and Expenditures, Assuming the Budget is Balanced by 2002, Including Economic Feedbacks, Calendar Years 1996-2050 (As a percentage of GDP)

	1996	2000	2005	2010	2015	2020	2025	2030	2035	2040	2050
NIPA Receipts	21	20	20	20	20	20	20	20	20	20	21
NIPA Expenditures											
Federal consumption expenditures	6	5	4	4	4	4	4	4	4	4	4
Transfers, grants, and subsidies											
Social Security	5	5	5	5	5	6	6	7	7	7	7
Medicare	2	3	3	4	4	5	5	6	6	7	7
Medicaid	1	1	2	2	2	2	2	2	3	3	3
Other	5	5	4	4	4	4	4	4	4	4	4
Net interest	3	3	2	2	1	2	2	3	5	9	30
Total	22	21	20	20	21	23	25	27	29	33	55
NIPA Deficit	2	1	0	0	1	3	4	7	9	12	34
Debt Held by the Public	50	46	38	31	29	34	45	64	91	126	283
Primary Deficit[a]	-2	-2	-2	-1	0	1	2	3	4	4	3

SOURCE: Congressional Budget Office.

NOTES: Simulations with economic feedbacks allow deficits to push up interest rates and lower the rate of economic growth. Negative deficit numbers indicate a budget surplus. The policy package balances the budget by 2002 and keeps it balanced between 2003 to 2007 by making changes in the level of spending, but it does not change the growth rate of spending after 2007. See text for details.

GDP = gross domestic product; NIPA = national income and product accounts.

a. The primary deficit is revenues minus noninterest outlays.

Chapter Two

Slowing the Growth in Social Security and Medicare

The long-term deficit problem facing the United States could be resolved by a combination of approaches involving reductions in future spending commitments for Social Security, Medicare, and other programs, together with increases in revenues. Options for slowing the growth in future Social Security and Medicare spending are important because those programs are so large and clearly affected by the aging of the U.S. population. Spending for Medicaid has also been growing rapidly and could escalate with the aging of the baby boomers (see Box 5).

The illustrative goal that the Congressional Budget Office used was to prevent spending for Social Security and Medicare from growing more rapidly than the economy when the baby boomers become eligible for both programs, beginning around 2010. As discussed in the preceding chapter, for any path of total federal spending and revenue to be sustainable, the resulting debt must eventually grow no faster than the economy. Holding spending for Social Security and Medicare to a fixed percentage of gross domestic product would go a long way toward putting the federal budget on a sustainable path. If spending for those programs grew no more rapidly than GDP after 2010, the long-term outlook for the federal deficit and for the nation's economy would improve dramatically (see Chapter 3).

Stabilizing the ratio of spending to GDP provides a convenient yardstick, but it is not necessarily an appropriate goal in view of the magnitude of the demographic shift that will occur. People may reasonably differ about what proportion of GDP is appropriately spent on income support and health care for retired and disabled workers, their families, and their survivors. To prevent spending for those programs from exceeding their projected shares of GDP in 2010, spending for Social Security would need to be pared by about 25 percent below its projected level in 2030 and spending for Medicare would need to be cut by over 40 percent below its projected level in 2030. Changes of those magnitudes would not be easy to achieve. Smaller reductions in the growth of spending for those programs could also be used to reduce long-term budgetary pressures and could be combined with changes in other government programs or with tax increases to achieve similar economic benefits.

Through federal policies that have been in effect for many years, U.S. workers have come to expect that, when they retire or become disabled, Social Security will provide them with income that will replace a significant portion of their previous earnings, that Social Security benefits will be available for their survivors, and that Medicare will provide them with access to mainstream medical care. More than 43 million retired or disabled workers, their dependents, and survivors now receive monthly Social Security payments, and about 38 million people have Medicare coverage. Policymakers will need to weigh the benefits of those programs against the need to make some policy changes—if not in those programs, then in the rest of government spending or in the taxes needed to finance them.

Social Security and Medicare are generally credited with having substantially improved the lives of the elderly and the disabled. In 1994, the elderly (those who are 65 and over) received about 40 percent of their cash income from Social Security. More than 98 percent of the elderly were enrolled in the Medicare Hospital Insurance program and 95 percent were enrolled in the Supplementary Medical Insurance (SMI) program.

Reliance on Social Security was especially high among those elderly whose cash income was relatively low. Families with at least one member collecting Social Security benefits who were in the lowest-income quintile of elderly families received almost 90 percent of their income from Social Security. Those in the highest-income quintile of elderly families received only 25 percent of their income from Social Security.

Options that would reduce the growth in spending for Medicare and Social Security can be thought of as interchangeable in the sense that a dollar saved in either program reduces the federal deficit by a dollar. Moreover, because most Medicare enrollees are also Social Security beneficiaries and vice versa, changes in either program generally affect the standard of living of the same people. That is an especially important point to keep in mind when considering a combination of options that would reduce Social Security benefits and increase Medicare premiums or cost sharing by enrollees.

The two programs differ, however, in an important way. Although federal savings resulting from a change in the Social Security program almost certainly translate into lower benefits paid to Social Security recipients, that is not necessarily the case for federal savings achieved by changes in the Medicare program. In particular, changes that would reduce payments to health care providers would reduce providers' income but would not necessarily diminish the standard of living of the enrollees if those payments were used to deliver health care services more efficiently.

Left untreated, the budgetary problem posed by Social Security and Medicare—and the difficulty of resolving it—will become formidable. In 2030, Social Security outlays will equal 6.4 percent of GDP, an increase of 1.7 percentage points over its share in 1996, according to the intermediate projections of the program's trustees in their 1996 annual report. Spending on Medicare, less premiums paid by enrollees, is projected to increase by about 4.7 percentage points to 7.1 percent of GDP over that period, based on the intermediate projections of the Medicare trustees in their 1996 annual report. Under those combined projections, spending for Social Security and Medicare would account for almost 14 percent of GDP in 2030, about double its current share of GDP.

The case for addressing the growth in spending for Social Security and Medicare before the boomers retire rests on at least two grounds. First, delay will only make the necessary actions more severe because the size of the accumulated federal debt will be that much larger. Second, concerns for both equity and efficiency

Box 5.
The Long-Term Outlook for Medicaid

Federal expenditures for Medicaid could also soar after the baby boomers reach retirement age, but the full impact would not be felt until later in the next century. Medicaid pays for a range of services not covered by Medicare for many low-income elderly and disabled people. Those services include prescription drugs and nursing home care. The program also pays Medicare's premiums and cost-sharing amounts for poor Medicare beneficiaries. Although those payments will start to rise as the baby boomers become eligible for Medicare, the major fiscal problem for the program will occur when the boomers begin to join the ranks of the "old old" and more of them begin to need long-term care services—about 2025.

Nonetheless, the effects of the aging of the boomers on federal Medicaid spending remain speculative because those effects will depend on the fiscal relationship between the federal government and the states that will govern Medicaid in the future. If, for example, states were to receive federal Medicaid funds in the form of a block grant with a fixed annual rate of growth, the federal government would be protected against rapid increases in Medicaid spending for the elderly. Under those circumstances, it would be the states that would face the serious problems of addressing the growing long-term care needs of an increasingly elderly population.

suggest that the commitment to changes in those programs be made well before they are carried out. Entitlement programs for the elderly and the disabled are generally viewed as long-term commitments between the government and the citizenry, and people have based their behavior on current provisions. Deciding soon on any future changes in such programs and making gradual changes in spending and tax policies would give people more time to plan and adjust.

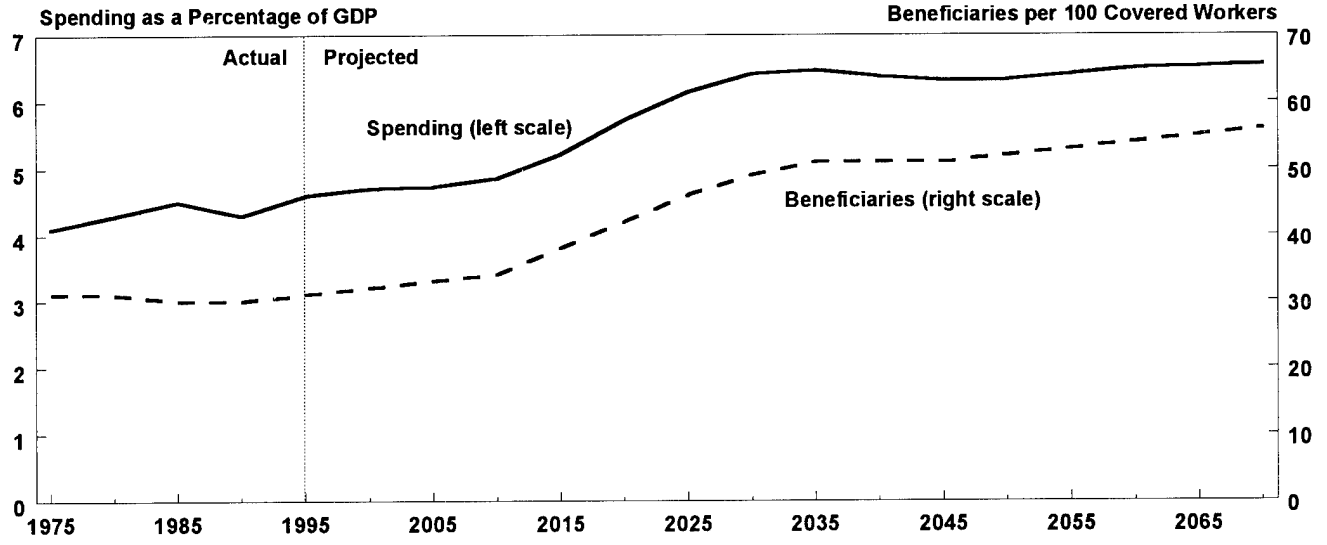
The precedent set by the Congress when it amended the Social Security system in 1983 is instructive. The changes included a substantial cutback in the growth of benefits by raising the normal retirement age. The first workers affected by that change were then only 45 years old—17 years away from eligibility for retirement benefits. By announcing the change so far in advance, the government gave workers the opportunity to take it into account when planning for their retirement.

Social Security

To curtail the growth in spending for Social Security benefits, a proposal must either reduce the number of beneficiaries or reduce the benefits for which they are eligible. The last can be done by changing the method by which initial benefits are calculated or by reducing the rate at which benefits are subsequently increased.

Most of the discussion in this section focuses on Old-Age and Survivors Insurance (OASI), the part of the Social Security system that provides benefits to retired workers, members of their families, and their survivors. The other part, Disability Insurance (DI), provides benefits to disabled workers under age 65 and their dependents. OASI is by far the larger program: last year, it accounted for almost 90 percent of spending for the two combined (referred to as OASDI). Ben-

Figure 6.
Growth in Social Security Outlays and Number of Beneficiaries, 1975-2070



SOURCE: Congressional Budget Office based on intermediate assumptions from the 1996 report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance trust funds.

NOTES: Social Security outlays as a percentage of gross domestic product are presented on a fiscal year basis for 1995 and earlier years; projections to 2070 are presented on a calendar year basis. Data are plotted at five-year intervals.

GDP = gross domestic product.

efits for both parts are financed primarily from payroll taxes paid by workers and their employers on earnings covered by the OASDI program. The combined tax rate for 1997 is 12.4 percent of up to $65,400 in covered earnings.

Source and Magnitude of the Problem

The Social Security eligibility and benefit rules have produced a stable spending pattern in recent years in which total spending has grown at about the same pace as the economy. But that relationship will change once

Box 6.
The Advisory Council's Plans for Balancing the Trust Funds

In January 1997, the Advisory Council on Social Security appointed by the Secretary of Health and Human Services in 1994 issued its final report.[1] The major focus of the council was to develop recommendations for improving the long-range financial status of the program.

Social Security Trust Funds

The advisory council uses the projected actuarial balance of the trust funds as a key indicator of the financial health of the Social Security system and as a baseline against which to estimate the effects of its plans on the long-range financial status of the program. In brief, the Old-Age and Survivors Insurance (OASI) Trust Fund and the Disability Insurance (DI) Trust Fund are separate accounts in the Treasury. Deposited in the trust funds are revenues received from Social Security payroll taxes on workers and their employers and part of the revenues received by the Treasury from taxing certain Social Security benefits. (The remaining revenues from taxing benefits go into Medicare's Hospital Insurance Trust Fund.) Social Security benefits, administrative expenses, and other authorized expenditures are paid from the OASI and DI funds. At the end of fiscal year 1996, the funds held more than $500 billion in assets, most of which were invested in special interest-bearing federal securities.

On the basis of the intermediate assumptions used by the funds' trustees in their 1996 report, the assets of the combined OASI and DI trust funds are projected to grow rapidly, with annual expenditures remaining below income from taxes until 2012 and below income from taxes plus interest until 2019. After that time, the principal balance in the funds will be drawn down rapidly and will be exhausted in 2029. The trustees concluded that the funds would not be in close actuarial balance over the next 75 years and that the difference between income and expenditures in the final year of this period, 2070, would equal 5.5 percent of taxable payroll (1.9 percent of gross domestic product).

The Council's Proposals

The members were unable to reach a consensus. Instead, three groups presented separate plans: the "maintain benefits" plan, the "individual accounts" plan, and the "personal security accounts" plan. All three plans called for covering state and local workers hired after 1997 and increasing the taxation of Social Security benefits. Otherwise, the three groups reached little agreement about what to do or when to do it. Some of the specific provisions in each plan would reduce the growth in spending by changing Social Security benefits. Other provisions involve changes in the amount of revenues credited to the trust funds or the investment policies for the funds.

The actuaries of the Social Security Administration estimated that each of the three plans of the advisory council would improve the actuarial balance of the Social Security trust funds, although some of the specific provisions might not help reduce the federal deficit or improve the capability of the economy to deal with the expected sharp increase in the number of beneficiaries. The individual accounts plan and the personal security accounts plan would each restore the actuarial balance of the funds over the 75-year period ending in 2070. The maintain benefits plan would restore the balance if it included the investment of part of the trust funds in equities. Otherwise it would not.

Maintain Benefits Plan. Under this plan, benefits would be reduced only slightly compared with current law, and would be done by gradually reducing initial

1. 1994-1996 Advisory Council on Social Security, *Report of the 1994-1996 Advisory Council on Social Security* (January 1997).

the number of beneficiaries begins to increase much faster than the number of workers. Since 1980, Social Security outlays have accounted for between 4.3 percent and 4.9 percent of GDP. From now until the first wave of baby boomers becomes eligible for retired-worker benefits, the Social Security Administration projects that under current law Social Security outlays will remain around 4.7 percent of GDP (see Figure 6 on page 27). From 2010 to 2030, outlays will increase from 4.8 percent to 6.4 percent of GDP. Thereafter, Social Security's share of GDP will increase at a much more gradual pace.

benefits through an increase in the number of years on which a worker's average earnings is based. In addition, more revenue would come from taxes on benefits and wages. The portion of the revenue from taxing benefits that now is credited to the Hospital Insurance Trust Fund would be redirected to the Social Security funds. Taxes paid by workers and their employers would be increased through higher payroll tax rates beginning in about 2045; the combined tax rate would rise from 12.4 percent to 14.0 percent of covered payroll. The authors also called for serious consideration of a plan to invest up to 40 percent of the assets in the trust funds in equities rather than Treasury securities.

Neither redirecting funds nor investing part of the trust funds in equities would assist the economy in preparing for the coming increase in the ratio of retirees to workers. Redirecting tax revenue from the Hospital Insurance part of Medicare to Social Security would mean only that the Hospital Insurance Trust Fund would be that much worse off. And simply changing the form in which trust fund assets are held would not change the amount of benefits to be paid out in relation to how much is produced by the economy.[2]

Individual Accounts Plan. The main elements of this approach are that benefit payments would be reduced by about 16 percent by 2030 and that workers would be required to pay 1.6 percent of their earnings up to the Social Security limit into a new mandatory individual retirement account beginning in 1998. Benefits would be cut primarily by reducing benefits for upper-income workers and raising the normal retirement age. The accounts would be held by the government as defined contribution accounts for investment in equity index funds or other approved options and annuitized on retirement.

The plan would probably raise national saving—both by cutting government spending on benefits and by requiring mandatory saving for retirement—thereby helping to boost the capacity of the economy to support future retirees. However, the mandatory 1.6 percent payment into a retirement account might cause some distortions in the supply of labor.

Personal Security Accounts Plan. Under this plan, the current Social Security benefit formula would be phased out and ultimately replaced by a smaller, flat benefit for future retirees who will be under age 55 in 1998. The monthly benefit would be set at approximately $410 in 1996 dollars and indexed to keep pace with average wage growth. Five percentage points of the worker's payroll tax would be redirected to new personal security accounts to be invested in financial instruments widely available in the financial markets and held for retirement purposes outside the government. Workers 55 or older in 1998 would continue to pay full payroll taxes and be covered under the existing system. Individuals between the ages of 25 and 54 would receive a combination of their accrued benefit under the existing system and a share of the flat benefit under the new system in addition to payments from their personal security account. A transition tax of 1.5 percent of covered earnings, along with borrowing from the Treasury, would be used to cover the costs of moving from the old system to the new one.

Individuals would bear more responsibility for planning for their own retirement because they would decide how the money in their personal security accounts would be invested. That feature could be especially appealing to workers who earn relatively high wages and are concerned about the low implicit rate of return on the payroll taxes paid by them and their employers. National saving eventually would rise in comparison with current law. The distribution of benefits, however, could be quite different from that under the current system. Moreover, shifting the risk of bad luck or bad choices of investments to individuals would represent a major change in the nature of the program.

2. Congressional Budget Office, *Implications of Revising Social Security's Investment Policies*, CBO Paper (September 1994).

The source of the problem is absolutely clear: since the mid-1970s, the ratio of beneficiaries to workers covered by the Social Security system has been about 30 to 100. That ratio is projected to rise to about 50 beneficiaries for every 100 workers by 2030, with the retirement of most baby boomers, and the combination of a relatively low birthrate and longer life expectancy will keep increasing the ratio thereafter. Given the commitments to provide benefits under current law, the increases in the ratio of beneficiaries to workers directly translate into higher outlays as a percentage of GDP.

Major Issues

The Congress will need to plan for the retirement of the baby boomers by deciding what the Social Security system should attempt to accomplish and what legislative changes will be needed to ensure that the system achieves its goals.

The current design of the Social Security system represents a balance between the goal of ensuring an adequate level of benefits to even the poorest beneficiaries and the goal of equitably distributing benefits in the sense that workers who have paid more taxes for Social Security should receive more in benefits, providing a reasonable return on their tax payments. The progressive benefit structure reflects those dual goals. Retired workers with histories of low wages receive benefits that replace a higher percentage of their preretirement earnings than do the benefits of other retired workers. Nonetheless, workers who earned higher wages receive higher benefits. Achieving both goals will become much more difficult when there are fewer workers per beneficiary.

Policymakers will need to consider changes in the design of the Social Security system in the light of their potential effects on people's incentives to work and save. For example, lower benefits for retired workers could encourage them to remain in the labor force longer, particularly if the age of earliest eligibility was raised. Reductions in benefits could also encourage workers to save more.[1]

The 1994-1996 Advisory Council on Social Security, appointed by the Secretary of Health and Human Services, struggled with the issue of how to improve the long-range financial status of the Social Security program for more than two years and failed to reach a consensus among its members. Part of the reason for disagreement was that they held divergent views about how large a role Social Security should play in the future (see Box 6 on page 28).[2]

Much of the debate within the council reflected competing views about the extent to which the government should be responsible for the well-being of workers and their families once they have retired or become disabled. At least two competing views emerged. One envisions keeping the Social Security benefit structure essentially as it is, continuing to provide the largest component of retirees' incomes. The other view envisions a smaller public system in which future workers would rely more heavily on other sources of income when they stopped working, such as private pensions, individual retirement accounts, and other savings.[3]

Specific Benefit Options

To keep outlays for Social Security from exceeding their projected rate in 2010 of about 5 percent of GDP, spending must be held to about three-fourths of its projected level under current law in 2030. The specific options considered in the pages that follow were patterned after several that have been proposed in recent years and were selected to illustrate both the strengths

1. Much has been written about the effect of Social Security on labor supply and private savings and on how much changes in Social Security provisions might alter people's decisions about when to retire and how much to save. This literature is reviewed in Michael D. Hurd, "Research on the Elderly: Economic Status, Retirement, and Consumption Saving," *Journal of Economic Literature*, vol. 28 (June 1990), pp. 565-637; see also 1994-1996 Advisory Council on Social Security, "Report of the Technical Panel on Trends and Issues in Retirement Savings," *Report of the 1994-1996 Advisory Council on Social Security*, vol. II (January 1997).

2. Until recently, the Social Security Act required that an advisory council be established every four years to review the status of the Social Security and Medicare trust funds and their relationship to their long-term commitments. That requirement ended when the Social Security Administration became an independent agency.

3. For a fuller discussion of the council's separate views, as well as a comprehensive survey of options for reducing the actuarial imbalance in the Social Security system and the presentation of a framework for assessment, see *Report of the 1994-1996 Advisory Council on Social Security*, vols. I and II (January 1997).

and weaknesses of the major approaches as well as trade-offs that the Congress would face in designing a specific policy. The options could be combined with one another or with revenue options.

The savings estimates reported are provided by the Social Security Administration's Office of the Actuary and are intended to indicate relative magnitudes of change. They are based on the intermediate economic and demographic assumptions used in the 1996 annual report of the trustees.

Reduce Initial Benefits. The most straightforward method of reducing the growth in Social Security spending is to lower the replacement rates in the benefit formula. The immediate effect of that approach would be to reduce benefits going to newly eligible beneficiaries. The full savings of a specified reduction would not be achieved until all of the beneficiaries whose initial benefits had been determined under the previous formula were no longer receiving benefits.

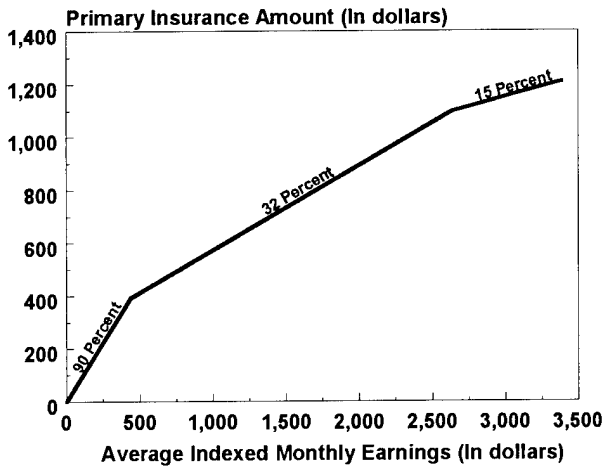
Under current law, benefits of retired (and disabled) workers are based on their past earnings, expressed as an average level of earnings over their working lifetime, known as the average indexed monthly earnings (AIME). From that average, a formula is used to calculate a worker's primary insurance amount (PIA), which is then adjusted for a number of factors, such as reductions for early retirement, credits for later retirement, and increases for inflation.

A worker's AIME is based on wages in covered employment (up to the taxable maximum), with some adjustments. Earnings on which retired workers and their employers paid Social Security taxes are indexed to compensate for past inflation and real wage growth. To convert the AIME to the PIA, a formula is applied that is progressive in that the PIA is a higher proportion of preretirement earnings for people with low average earnings than for those with higher earnings.

Under the formula, Social Security benefits replace 90 percent of the first part of a worker's AIME. However, for subsequent portions of the AIME, the proportion falls—first to 32 percent and finally to 15 percent (see Figure 7). For workers who reached age 62 in 1996, the formula is as follows: a worker's PIA equals 90 percent of the first $437 of the AIME, plus 32 percent of the AIME between $437 and $2,635, plus 15 percent of the AIME over $2,635. The points at which the percentage of the AIME that is replaced by the PIA changes (known as "bend points") are indexed to average annual earnings for the labor force as a whole. Consequently, as wages rise over time, average replacement rates are maintained.

In general, workers receive 100 percent of their own PIA in benefits if they first receive benefits at the normal retirement age, which is currently 65. The benefit is reduced if they retire earlier. For example, a worker who retires at age 62 receives a permanent 20 percent reduction. The size of that reduction is intended to be actuarially fair in that the present value of the reduced monthly benefits that average workers could expect to receive at age 62 is similar to the present value of the full monthly benefits they could expect to receive by delaying initial benefits until the normal retirement age. Similarly, workers who delay collecting benefits beyond their normal retirement age receive a delayed retirement credit to compensate them for the reduction in the length of time that they will receive

Figure 7.
Primary Insurance Amounts in Relation to Average Indexed Monthly Earnings Under Current Law for Workers Who Turned Age 62 in 1996



SOURCE: Congressional Budget Office.

NOTE: For workers in this cohort who retired at age 65 (in 1999), the primary insurance amount would be based on the formula illustrated in this figure, with the amounts increased by the cost-of-living adjustments effective in 1996, 1997, and 1998.

benefits, although that credit will not reach its actuarially fair level of 8 percent a year for another decade.[4]

Workers who had average earnings throughout their careers and retired at age 65 in 1996 were eligible for an annual "retired-worker benefit" of about $10,700, which replaced 43.2 percent of their previous annual earnings. Because the benefit structure is progressive, the replacement rate is inversely related to past earnings. For example, workers who earned 45 percent of average earnings each year would receive about $6,500, replacing about 58 percent of their past earnings. Workers who always earned the maximum taxable amount ($62,700 in 1996) would receive about $15,000, replacing about 24 percent of their past covered earnings.

Under current law, workers with average earnings who retire at age 65 after the turn of the century will be eligible for higher (inflation-adjusted) benefits than those paid to today's average earner, but the benefits will replace a smaller percentage of their past earnings. For example, the Social Security Administration projects that workers with average earnings who retire in 2030 will receive about $12,000 (in 1996 dollars), which will replace 36.4 percent of their earnings during the preceding year.[5] Although that replacement rate is well below the average in recent years, it is similar to the percentage of earnings that was replaced for workers who retired at age 65 in the late 1960s.[6]

Most of the projected decline in the replacement rate is caused by the scheduled increase in the normal retirement age, which is to become age 67 for workers born in 1960 or later. Thus, workers who retire in 2030 at age 65 will receive a permanent reduction in their benefits of about 13 percent because of the actuarial reduction for early retirement. If they wait until 67 to retire, their replacement rate will be 41.8 percent, not far below the current rate for workers retiring at age 65.

The major advantage of using across-the-board reductions in replacement rates as a means of achieving savings is that they would do so in a way that would otherwise preserve the existing benefit structure. If the change in the formula was announced well in advance of the date when it would take effect, workers could try to adjust their retirement and savings plans accordingly. The major disadvantage of that approach is that some people, such as workers who become disabled and eligible for DI, would not be able to change their behavior and would therefore get substantially lower benefits after they stopped working than they would under current law.

By way of illustration, consider a specific option that would reduce the benefits of each successive cohort of workers who became eligible for Social Security disability or retired-worker benefits by 1 percent a year, starting in 1998 and ending in 2032. Under that option, workers becoming eligible in 2010 would receive about 88 percent of their benefits under current law, and those becoming eligible in 2032 and thereafter would receive about 70 percent. Workers who had average earnings, became eligible for benefits in 2030, and retired at age 65 would receive annual benefits of roughly $8,600 (in 1996 dollars)—about $2,000 below the amount that similar workers retiring at age 65 receive today.

The savings that would be achieved in a specific year would depend on the composition of beneficiaries by year of eligibility. The Social Security actuaries estimate that this option would ultimately achieve a 30 percent reduction in Social Security expenditures, once all beneficiaries were subject to the full reduction in replacement rates. It would achieve a 19 percent reduction in 2030 and a 25 percent reduction in 2040. Larger savings in future years would be achieved, of course, if the replacement rates of newly eligible beneficiaries were reduced further after 2032.

A variation of that option (included in one of three sets of options presented by the advisory council) would reduce the replacement rates in only the second and third brackets of the benefit formula. That is, beneficiaries would continue to receive 90 percent of their average earnings up to the first bend point. That variation, designed to help shield workers with histories of relatively low earnings, would save less money unless larger reductions were made in the second and third brackets. The actuaries estimate that such a modifica-

4. Starting with beneficiaries born in 1943, each year delayed beyond the normal retirement age (which will be age 66 for that cohort) will add 8 percent to their retired-worker benefits. The delayed retirement credit for workers reaching the normal retirement age in 1997 (age 65) is only 5 percent.

5. Board of Trustees, Federal Old-Age and Survivors and Disability Insurance Trust Funds, *1996 Annual Report* (June 5, 1996), p. 184.

6. Robert J. Myers, *Social Security*, 4th ed. (Philadelphia: Pension Research Council and University of Pennsylvania Press, 1993), p. 363.

Table 10.
Increases in Normal Retirement Age Under Current Law and Two Illustrative Options

Year of Birth	Year in Which Age 62 Would Be Reached	Year in Which Age 65 Would Be Reached	Normal Retirement Age	Reduction for Retirement at Age 65 (Percentage of PIA)
		Current Law		
1943	2005	2008	66	6.67
1960	2022	2025	67	13.33
		First Option		
1943	2005	2008	66	6.67
1949	2011	2014	67	13.33
1973	2035	2038	68	20.00
1997	2059	2062	69	25.00
		Second Option		
1943	2005	2008	66	6.67
1949	2011	2014	67	13.33
1955	2017	2020	68	20.00
1961	2023	2026	69	25.00
1967	2029	2032	70	30.00
1991	2053	2056	71	34.50

SOURCE: Congressional Budget Office based on information provided by the Social Security Administration, Office of the Actuary.

NOTE: PIA = primary insurance amount.

tion would eliminate nearly half of the savings that would be achieved by an across-the-board cut.

Raise the Retirement Age. Under current law, the age at which a worker becomes eligible for full retirement benefits is 65, and will gradually increase to 67. Members of Congress and others have recommended that the change to a normal retirement age (NRA) of 67 be accelerated and that the NRA be further increased thereafter. Proponents point out that people at age 65 today live longer than was the case in the early days of the Social Security system, that life expectancy is projected to continue to increase, and that this otherwise favorable development would raise the cost of the program.[7]

Two specific options to raise the retirement age illustrate that approach (see Table 10). The first would speed up the transition to age 67 and then further increase it to keep up with future increases in life expectancy. The NRA of workers who turn age 62 in 2011 would be age 67. Thereafter, the NRA would increase by one month every two years, reflecting projected growth in the ratio of life expectancy at the NRA to potential work years. For example, the NRA would be 68 for workers turning age 62 in 2035 and 69 for workers turning age 62 in 2059. Workers would still be able to begin receiving benefits at age 62, and the amounts would be reduced accordingly. That option is patterned after a proposal included in one of the three sets of options presented by the advisory council.

The second option would also accelerate the transition to age 67, but would continue increasing the NRA by two months a year until it reached 70 in 2029. Thereafter, it would raise the NRA from 70 by one month every other year. As with the first option, work-

7. Social Security Board of Trustees, *1996 Annual Report* (1996). The intermediate assumptions in the report are that in 2030 men who reach age 65 will live an additional 16.9 years and that women will live an additional 20.5 years. In 1996, the life expectancy of men age 65 was 15.4 years and that of women was 19.2 years. In 1940, the life expectancies of men and women age 65 were only 11.9 years and 13.4 years.

ers would still be able to begin receiving reduced benefits at age 62.

Each option would produce substantial savings, although not nearly enough by itself to achieve the spending targets presented above. In relation to projected spending levels under current law, the first option would reduce outlays by about 3 percent in 2030 and 8 percent in 2070. The second option would reduce outlays by about 8 percent in 2030 and 16 percent in 2070.

For most purposes, such an approach to cutting the growth in benefits is equivalent to cutting replacement rates. To arrive at that equivalence, compare the reductions from PIAs that workers who began receiving retired-worker benefits at age 65 would get under current law and under the two options. For example, workers retiring at age 65 in 2038 would have their benefits reduced by about 13 percent under current law, 20 percent under the first option, and more than 30 percent under the second option.

However, the options differ from the approach of directly reducing replacement rates in that the benefits of workers who qualified for Disability Insurance would not be reduced. Thus, workers would have a somewhat stronger incentive to apply for DI benefits in order to receive higher monthly benefits. Under current law, for instance, workers retiring at age 62 in 2011 would receive 75 percent of their PIA; if, instead, they qualified for DI benefits, they would receive 100 percent. Under both of the options for increasing the normal retirement age discussed above, workers retiring at age 62 in 2011 would only receive 70 percent of their PIA, but would still receive 100 percent if they qualified for DI benefits.

Finally, some proposals for increasing the normal retirement age would raise the earliest age of eligibility for retired-worker benefits as well. Currently, more than two-thirds of retired-worker beneficiaries choose to begin receiving benefits before age 65. Increasing the earliest age of eligibility would most likely increase the size of the workforce as some workers delayed retirement, thereby adding to the nation's economic output. Moreover, it would help to ensure that once they did retire, workers would have higher benefits because they would not have incurred the actuarial reduction.

Opponents of raising the earliest age of eligibility argue that some of the workers who begin receiving benefits at age 62 have little if any choice—for example, because the jobs they held were especially physically demanding or they have become incapacitated. Opponents also contend that many of those early retirees have no pensions or other sources of income.

Reduce the Cost-of-Living Adjustments. Each year, monthly benefits are adjusted by the increase in the consumer price index (CPI). To give an example, the 2.9 percent cost-of-living adjustment (COLA) effective for December 1996 was based on the increase in the CPI between the third quarter of 1995 and the third quarter of 1996. The CPI for urban wage earners and clerical workers is used for that calculation. The basic benefit amount is indexed by the increase in the CPI, beginning when a worker becomes eligible for Social Security benefits. For retired-worker benefits, indexing starts at age 62.

An additional or alternative way of reducing the growth in Social Security benefits is to reduce the automatic COLA. Instead of providing an annual COLA equal to the increase in the CPI, the law could be changed to provide a COLA equal to the CPI minus a specified number of percentage points. To illustrate that approach, Social Security actuaries estimated two specific options. The first would determine the COLA based on the increase in the CPI less 2.5 percentage points for 1998 and thereafter. The second would base the COLA on the increase in the CPI less 1 percentage point. To reduce outlays by 25 percent in 2030 (and beyond) solely by means of an across-the-board permanent reduction in the COLA would require that the steeper cut in the COLA be made. The second option would achieve less than half of the savings.

Reducing the automatic COLA for Social Security benefits has been widely discussed as a way of achieving considerable savings. Eliminating the COLA for one year or limiting it to less than the CPI could quickly produce large savings by exacting small reductions in benefits from a large number of people.[8]

Many analysts feel that the CPI overstates increases in the cost of living, although the magnitude of the overstatement and what should be done about it are subject to much debate. The Advisory Commission to Study the Consumer Price Index (also known as the

8. Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (March 1997), pp. 284-287.

Boskin Commission) recently estimated the size of the upward bias to be about 1 percentage point a year.[9] If that is the case, then Social Security beneficiaries have been receiving increases in benefits beyond what was necessary to keep up with inflation. If the CPI overstates increases in the cost of living for beneficiaries, then the COLA could be reduced by a commensurate amount without lowering real benefits to beneficiaries below what they received when they became eligible for the program.

Compared with an equivalent across-the-board reduction in replacement rates (or an equivalent increase in the normal retirement age), the people whose benefits would be lowered most by reducing COLAs would be the oldest beneficiaries and those who initially became eligible for Social Security on the basis of disability. The option could be modified to reduce the COLAs only of beneficiaries whose benefits or incomes were above specified levels, but doing so would reduce the savings. (Some beneficiaries with low incomes and few assets would receive Supplemental Security Income (SSI) benefits, which would offset some or all of the reduction in their Social Security benefits; the increased spending for SSI would help those beneficiaries, but it would also reduce the budgetary savings from this option by a small amount.)

The impact of even a relatively small reduction in COLAs would be quite large for future older beneficiaries whose benefits would reflect the cumulative effects of a series of smaller COLAs. For example, if benefits were adjusted by 1 percentage point less than the CPI each year, retired workers (or their survivors) at age 74 would incur an 11 percent reduction in benefits, compared with the amount they would have received under current law; workers at age 84 would get a 19 percent reduction; and workers at age 94 would get a 27 percent reduction.

Whether or not the real value of the Social Security benefits received by older beneficiaries would then be below what it was when they first became eligible for benefits, their benefits would fall relative to those of new beneficiaries. That decline would occur because initial benefits would continue to be based on a formula in which past earnings are indexed to compensate for growth in nominal wages, which is the sum of inflation and real wage growth. Under current law, each new group of beneficiaries who begins receiving benefits at the normal retirement age receives a slightly higher average benefit than the group who became eligible the previous year, reflecting the increase in real wages. If COLAs were reduced by 1 percentage point, then the gap between consecutive age groups would widen accordingly.

Other Options. Carrying out any of the options presented above would eventually reduce the amount of Social Security benefits (in relation to current law) for the majority of beneficiaries. Other approaches that have received attention in recent years would achieve savings by reducing or eliminating benefits for specific groups of beneficiaries. Much deeper reductions for those beneficiaries who were affected, would, of course, be required to achieve comparable savings.

In some cases, the number of beneficiaries affected would be too small to have much impact on total spending, even if their benefits were eliminated. For example, lowering the benefit to spouses from one-half to one-third of the retired worker's PIA would reduce Social Security outlays by less than 2 percent because most spouses would be eligible for benefits as retired workers anyway. Combining several options affecting specific groups could produce more significant savings.

Another approach to reducing expenditures for Social Security (as well as for other programs) is to reduce or eliminate benefits going to people in middle- and upper-income families, although such an approach could create a disincentive for families to save or to earn other income. In principle, Social Security benefits could be cut by any desired percentage by reducing benefits as beneficiaries' incomes rose, denying benefits to people with incomes above specified thresholds, or increasing the taxes on benefits. Specific options for doing so are presented in a separate CBO report.[10] One option described in that report would pare Social Security and other entitlement benefits as the total family income of the beneficiaries rose above $40,000. That option, proposed by the Concord Coalition, would reduce projected spending for Social Security benefits by

9. Advisory Commission to Study the Consumer Price Index, Final Report to the Senate Finance Committee, *Toward a More Accurate Measure of the Cost of Living* (December 4, 1996).

10. Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options*, pp. 288-291.

about 7 percent in 2002. Making Social Security benefits fully subject to individual income taxes would increase revenues by a similar amount.

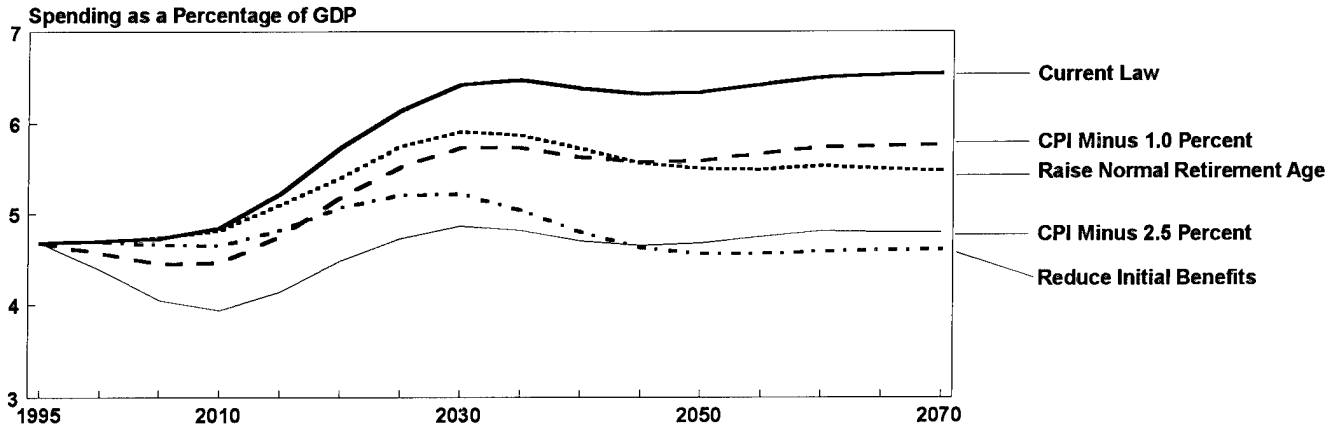
Conclusions About Social Security

Preventing outlays for Social Security from becoming a larger share of national income in the face of an aging population would require substantial cutbacks in the commitments that have been made under current law. Two options discussed in this chapter and illustrated in Figure 8 suggest how large the reductions would need to be. An across-the-board cut in replacement rates would ultimately require reducing benefits by nearly 30 percent from the amounts provided under current law. To achieve similar savings through a cut in cost-of-living adjustments would require that benefits be increased each year by about 2.5 percentage points less than the increase in the CPI. Each of those options would leave beneficiaries, as a group, much worse off. The last option would leave initial benefits untouched, but would have enormous effects on the benefits of very elderly beneficiaries and those who began receiving benefits at an early age because of disabilities.

Smaller reductions in COLAs and gradual increases in the normal retirement age could be used separately to reduce the growth in benefits by smaller amounts or as a part of a larger package. One of the options described in this chapter—setting annual cost-of-living adjustments 1 percentage point below the increase in the CPI—would maintain Social Security outlays at about 5.8 percent of GDP, well below the 6.6 percent projected by 2070 under current law in the 1996 trustees' report. The option to raise the normal retirement age to 70 by 2029 and to 71 by 2053 would reduce projected outlays to about 5.5 percent.

Combining the smaller COLA cut with an increase in the normal retirement age would keep spending for Social Security from increasing much above its current percentage of GDP. But the combined effect on people affected by both cuts could be quite large. For those beneficiaries, the two seemingly modest reductions would add up to a large reduction in their benefits.

Figure 8.
Illustrative Options for Reducing Growth in Social Security Outlays



SOURCE: Congressional Budget Office based on estimates provided by the Social Security Administration, Office of the Actuary, December 5, 1996.

NOTES: These estimates are based on the intermediate assumptions used in the 1996 report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. Data are plotted at five-year intervals.

CPI = consumer price index; GDP = gross domestic product.

Medicare

Medicare provides federal health insurance for 38 million people who are aged, disabled, or have end-stage renal disease. Part A of Medicare, or Hospital Insurance, covers inpatient services provided by hospitals, as well as skilled nursing, home health, and hospice care. Part B, or Supplementary Medical Insurance, covers services provided by physicians, limited-license practitioners (such as chiropractors and podiatrists), hospital outpatient departments, and suppliers of medical equipment.

Everyone who is eligible for Social Security benefits on the basis of age or disability is ultimately eligible for Medicare as well, although Medicare eligibility is delayed until age 65 for early retirees and by two years for disability beneficiaries. In addition, people who are 65 or older and not eligible for Medicare on the basis of their (or their spouse's) previous work history may enroll by paying the HI and SMI premiums.

Hospital Insurance benefits are financed primarily from current workers' payroll taxes, which are deposited in the HI trust fund. The actuarially fair HI premiums paid by the small proportion of aged beneficiaries who are not eligible on the basis of work history compose less than 1 percent of HI trust fund receipts. Since 1994, a portion of income taxes paid on Social Security benefits have also been credited to the HI trust fund, accounting for less than 4 percent of trust fund receipts. HI trust fund receipts were less than benefits paid in 1995 and 1996, and that imbalance will increase in later years under current law.

Supplementary Medical Insurance benefits are financed primarily from general revenues, although beneficiaries pay a premium to cover some of the costs. Under current law, the SMI premium is set to cover 25 percent of the expected average cost of benefits for aged enrollees each year. For 1999 and later years, current law will limit annual percentage increases in SMI premiums to no more than the cost-of-living adjustment made to Social Security benefits each year. Because health care costs per enrollee are expected to grow more rapidly than the cost of living, the share of SMI costs financed by the premiums of beneficiaries will start to fall after 1998, and an increasing portion of SMI trust fund receipts will come from general revenues.

Rapid increases in Medicare spending have been a concern almost from the program's inception (see Table 11). Spending has grown rapidly from the beginning—as a share of both gross domestic product and the federal budget—but the baby-boomers' retirement, beginning early in the next century, will greatly accelerate that trend unless substantial changes are made in the program.

Table 11.
Medicare Enrollment and Spending, 1975-1995 (In percent)

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of		Spending Net of Premiums as a Percentage of	
		GDP	Budget	GDP	Budget
1975	10.8	1.2	5.1	1.0	4.6
1980	11.8	1.6	7.0	1.4	6.5
1985	12.2	2.0	8.6	1.9	8.0
1990	12.9	2.3	10.2	2.1	9.3
1995	13.6	2.6	11.3	2.3	10.0

SOURCE: Congressional Budget Office.

NOTES: Medicare began in 1966 and initially covered only the aged. Eligibility was extended to disabled people and those with end-stage renal disease in 1974.

GDP = gross domestic product.

Table 12.
Medicare Enrollment and Spending Projected to 2070, Under Current Law (In percent)

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of	
					Medicare Spending	Enrollee Income[a]
1996	13.7	2.7	0.3	2.4	9.4	3.0
2010	15.2	4.4	0.3	4.1	6.0	2.8
2030	21.9	7.4	0.3	7.1	4.3	2.3
2050	23.0	8.1	0.3	7.8	3.3	1.9
2070	24.6	8.8	0.2	8.6	2.6	1.5

SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTES: Under currrent law, Hospital Insurance Trust Fund receipts are projected to be about 1.5 percent of gross domestic product throughout the period.

GDP = gross domestic product.

a. The average income of enrollees is assumed to increase at the same rate as GDP per capita.

In their 1996 report, Medicare's trustees indicated that the HI trust fund is not adequately funded even for the short term before the effects of the baby boom will be felt. In fact, according to the latest projections, the HI trust fund will be exhausted in 2001 under current law.[11] Depletion of the HI trust fund could be avoided, however, by transferring general revenues to it as necessary, just as is now done for the SMI trust fund. The more fundamental problem is that the expected rate of growth in Medicare spending is unsustainable over the long term, given the slower rate of growth expected for GDP.

This analysis uses the long-term projections presented by Medicare's board of trustees in their 1996 report. Those projections are not identical to the ones by CBO presented in Chapter I because CBO uses different economic assumptions. However, when expressed as a share of GDP, CBO's projections are similar to those of the trustees. Throughout this analysis, a distinction is made between federal spending for Medicare and total Medicare costs, which includes cost-sharing expenses of beneficiaries as well.

Sources and Magnitude of the Problem

Rapid growth in Medicare spending in relation to GDP is the result of two main factors. One is growth in the number of beneficiaries, which currently accounts for about one-sixth of the growth in spending. That growth will become more important after 2010, when the first of the baby-boom population will be eligible on the basis of age. Between 2010 and 2030, the rate of growth in enrollment is expected to average about 2.4 percent a year, whereas average growth from 1995 to 2010 will be about 1.5 percent a year. Medicare enrollment is expected to increase from about 14 percent of the population in 1996 to 22 percent in 2030 and to 25 percent by 2070. The second and more important factor is growth in costs per beneficiary, which has been substantially higher than growth in per capita income in the past and which is expected to continue at rapid rates. The first factor—growth in the number of beneficiaries—affects both the Social Security and Medicare programs, but only Medicare is affected by the second. For that reason, fiscal problems are more severe for the Medicare program than for the Social Security program.

In 1996, Medicare spending was about 2.7 percent of GDP, and spending net of premiums paid by enrollees was 2.4 percent of GDP (see Table 12). HI trust

11. Social Security and Medicare Boards of Trustees, *Status of the Social Security and Medicare Programs: A Summary of the 1996 Annual Reports* (June 1996), p. 6 (using the intermediate assumptions).

Box 7.
Medicaid Supplements to Medicare

Under current law, federal and state governments incur additional health care costs for the Medicare population through Medicaid. About 70 percent of Medicaid spending is for benefits to the 15 percent of Medicare enrollees who also receive Medicaid benefits. All Medicare enrollees who are poor may apply to have Medicaid pay their cost-sharing and premium requirements. Medicare enrollees who are eligible for full Medicaid benefits also get coverage for services not covered by Medicare—such as prescription drugs and long-term care. Consequently, total federal spending for health care for the Medicare population is about 1.3 times Medicare spending, and combined federal and state spending is about 1.6 times Medicare spending.

fund receipts were about 1.4 percent of GDP.[12] Thus, Medicare's net contribution to the deficit was about 1 percent of GDP. Under the trustees' assumptions, Medicare spending is expected to continue to grow in relation to GDP, but revenues are not. By 2010, a year before the first of the baby-boom population will reach age 65, Medicare's costs will have grown to 4.4 percent, and spending net of premiums will be 4.1 percent of GDP. By 2070, Medicare spending is projected to reach 8.8 percent of GDP, and spending net of premium receipts is expected to reach 8.6 percent of GDP. Additional federal (and state) spending for the health care of Medicare enrollees takes place through Medicaid (see Box 7).

Although any long-term projection is highly uncertain, the assumptions behind the trustees' intermediate projections may not be realized under current law. They assume that growth in Medicare spending per beneficiary will gradually slow between 2005 and 2020 to be more in line with growth in income per capita. As a result, the increase in spending as a percentage of GDP shown after 2020 accounts only for growth in the number of Medicare beneficiaries as a share of the population. In particular, the trustees assume that average annual growth in Medicare spending per beneficiary will drop from 7.8 percent before 2005 to only 5.3 percent after 2020.

Major Issues

Medicare has been highly successful in achieving its original objective—ensuring access for the aged, and later the disabled, to mainstream medical care. Before Medicare, few aged or disabled people had the protection offered by health insurance. Today, most aged and disabled people have access to public insurance for a premium equal to only about 10 percent of average benefits. (Premiums cover 25 percent of SMI costs, and SMI spending is about 40 percent of total Medicare spending.)

Under current law, however, Medicare spending will become increasingly burdensome to the economy. As discussed earlier, rapid growth in federal spending for health care—with no commensurate increase in federal revenues—is one of the main contributors to the federal budget deficit. If no action is taken, government spending on health care for Medicare enrollees will come to consume a significant share of GDP, crowding out spending for other needs.

Federal spending for Medicare could be reduced by increasing the premiums or cost-sharing requirements imposed on beneficiaries. But that approach by itself, without changing the options available to beneficiaries, could threaten access to medical care for some enrollees. It would reduce federal costs only by shifting them to beneficiaries, with little improvement in mechanisms for limiting growth in the total costs of care.

Broader policy goals would be served by putting policies in place that would slow the growth in total (not just federal) costs for health care for the Medicare population. Such policies would encourage beneficiaries and health care providers to make more cost-effective choices than many do now. If successful, that approach would reduce the resources used for health care and ensure continued access to medical care for Medicare beneficiaries. Whether such efficiencies can be achieved, however, is uncertain.

Currently, nearly 90 percent of beneficiaries are enrolled in Medicare's fee-for-service sector, in which

12. Although Medicare's trust funds also generate interest receipts, those are not included because they are intragovernmental transfers that do not affect the deficit.

financial incentives encourage providers to supply more services than may be necessary. Moreover, patients have little financial reason to refuse any services that may be of some benefit because they pay only a fraction of the costs of the services they use. Medicare beneficiaries have the option of enrolling in health maintenance organizations (HMOs), which are thought to provide more cost-effective care than is provided in the fee-for-service sector. But only about 10 percent of beneficiaries chose that option in 1995, despite the more generous benefits that most HMOs offered at little or no supplemental premium cost. Further, Medicare's costs for those who chose an HMO were probably higher than they would have been in the fee-for-service sector because Medicare's payments to HMOs (which are based on its costs per enrollee in the fee-for-service sector) do not adequately adjust for the favorable selection that HMOs tend to experience among Medicare enrollees.

If the goal is to stabilize the share of national income consumed by Medicare, structural changes in the program may be required to achieve spending reductions of the necessary size. A number of legislative proposals introduced in the 104th Congress were intended to encourage development of more risk-based options for Medicare enrollees, reducing the current dominance of Medicare's relatively unmanaged fee-for-service sector. The underlying expectation was that health care costs would be lower if Medicare enrollees moved into risk-based plans offered in a competitive market. That expectation assumed changes in Medicare's payment methods for such plans so that Medicare could capture more of the savings that managed care can generate when compared with unmanaged fee-for-service coverage. The proposals would have reduced the growth of Medicare spending by reducing payments to both fee-for-service providers and risk-based plans.

However, creating an effective competitive market for risk-based health plans serving Medicare enrollees is a complex undertaking that may take years to achieve in all metropolitan areas, and may never be achievable in less populated areas. In those areas where competing plans are offered, the success of such an approach would depend critically on the ability of enrollees to compare the various plans offered with respect to quality as well as price. It would also depend on the willingness of enrollees to change plans (and probably providers) if their plan was no longer a good value. Further, difficulties are involved—especially in setting payment rates and accounting for selection bias among plans—that, if not addressed appropriately, could result in higher rather than lower federal spending. Finally, because risk-based plans have financial incentives to undertreat (rather than to overtreat as in the fee-for-service sector), effective provisions would be needed to ensure that patients were not denied appropriate services.

If Medicare continued to set payment rates for risk-based plans on the basis of its costs per enrollee in the fee-for-service sector as it does now, the savings from managed care would go (as they do now) toward enhancing benefits for enrollees or HMO profits rather than reducing federal spending. Although demonstration studies are in the planning stages, Medicare as yet has no experience with alternative methods—such as competitive bidding by plans—to establish payment rates.

In the long run, a competitive market for Medicare services can be feasible only if plans compete on the basis of quality and cost, rather than on their ability to select good risks. To avoid competition on the basis of risk, Medicare must adjust its payments to plans based on the risks of those actually enrolled in each plan. Existing methods of risk adjustment may not be adequate, however, and significantly improved methods may not be available soon. In the absence of good methods for adjusting for risk, Medicare must monitor the offerings and the enrollment and disenrollment patterns of competing risk-based plans to identify and eliminate inappropriate practices.

The longer the Congress waits to initiate fundamental restructuring of Medicare, the more difficult it will be to keep Medicare spending within acceptable limits. The Congress may also want to consider changes in the Medicaid program and in medigap requirements, both of which are closely related to Medicare. ("Medigap" refers to private insurance plans that supplement Medicare by covering all or most of Medicare's cost-sharing requirements.) If legislation eliminated the current requirement that Medicaid provide coverage for poor enrollees' premiums and cost-sharing under Medicare, other means-tested subsidies for low-income enrollees would be necessary to maintain their access to medical care. If Medicare's current fee-for-service sector remains, policymakers might consider

changing medigap requirements because the first-dollar coverage typically provided by medigap plans eliminates the effects of Medicare's cost-sharing requirements on curtailing the use of services by beneficiaries.

Specific Benefit Options

The options discussed below assume, for illustrative purposes, that the primary objective is to limit Medicare's net spending to no more than 4.1 percent of GDP—the level projected for 2010 under current law. Secondary goals are to maintain ready access to medical care for Medicare enrollees and to foster a reduction in total health care costs, rather than simply shifting federal costs for Medicare to enrollees or other payers. The results are presented under the assumption that, even under current law, the rate of growth in federal spending per enrollee will gradually slow after 2005 to be more in line with the growth in per capita GDP, rather than continuing at the current rapid rate.

Raise the Age of Eligibility to 67 or 70. The age of eligibility for Medicare could be gradually increased from 65 to 67, phased in from 2003 through 2025, which is consistent with currently scheduled increases in the normal retirement age for Social Security benefits. Compared with current law, this option would reduce Medicare enrollment by about 9 percent and spending by about 5 percent by 2025. Spending would fall by less than enrollment because those who are 65 to 66 years old are typically the least costly enrollees. SMI premium collections would fall by 9 percent in line with the drop in enrollment. GDP and HI payroll taxes might increase somewhat, depending on how many of those people affected by the delay in Medicare eligibility chose to postpone retirement and to what extent that increased total employment. However, any such effects would be small and are not estimated here.

If instead the age of eligibility was increased to 70, phased in from 2003 through 2032, the annual percentage reduction in Medicare spending would reach its maximum of about 17 percent in 2032. The annual reduction in spending would then fall to about 15 percent by 2070 as the targeted age group became a smaller share of the aged population. Enrollment and SMI premium receipts would fall by 22 percent to 25 percent once the higher age of eligibility was fully in place. Even so, this option would not keep net spending below 4.1 percent of GDP after 2010 (see Table 13).

Although raising the age of eligibility would reduce Medicare spending somewhat, it would do little to reduce total health care costs for those eligible for Medicare under current law. Further, it would lengthen the period of time during which those opting for early

Table 13.
Medicare Enrollment and Spending Projected to 2070, Assuming Age of Eligibility Is Increased to 70 by 2032 (In percent)

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of	
					Medicare Spending	Enrollee Income[a]
1996	13.7	2.7	0.3	2.4	9.4	3.0
2010	15.0	4.3	0.3	4.1	5.9	2.8
2030	17.7	6.4	0.3	6.2	4.0	2.3
2050	17.6	6.8	0.2	6.6	3.0	1.9
2070	19.2	7.5	0.2	7.3	2.4	1.5

SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTE: GDP = gross domestic product.

a. The average income of enrollees is assumed to increase at the same rate as GDP per capita.

retirement under Social Security (at age 62) might have difficulty getting insurance coverage. One effect of such an approach would be to shift costs now paid by Medicare to employers who offer health insurance to their retirees. Another effect might be to increase the number of applications for disability from the affected population, thereby reducing the savings that Medicare might otherwise realize. The last effect would probably be small and is not estimated here.

The option would also affect federal and state spending for Medicaid because about 15 percent of Medicare enrollees are eligible for Medicaid benefits as well. If Medicaid's age of eligibility for the aged category was increased in tandem with Medicare's, then spending for Medicaid would fall because the affected age group would lose eligibility for Medicaid at the same time that it lost eligibility for Medicare—although some of the affected people might regain eligibility by qualifying as disabled or medically needy. If Medicaid's age of eligibility was unchanged, there would be two offsetting effects on Medicaid spending. For those Medicare beneficiaries who are dually eligible for full Medicaid benefits, Medicaid spending would increase as Medicare withdrew its support for the affected age group. But Medicare beneficiaries who are eligible only for qualified Medicaid benefits (payment of Medicare's cost-sharing and premium requirements) would lose their eligibility for Medicaid along with their eligibility for Medicare, thereby reducing Medicaid spending. Since the direction and the magnitude of the change in spending for Medicaid is uncertain, that effect is not estimated.

Collect More in Premiums or Taxes from Medicare Enrollees. Premiums paid by Medicare enrollees now cover only about 10 percent of the average benefit paid by Medicare through the HI and SMI programs—a share that is expected to drop after 1998 under current law. If, instead, collections from beneficiaries were gradually increased to cover 50 percent of Medicare's HI and SMI costs by 2010, net spending would not exceed 4.1 percent of GDP until 2060 (see Table 14).

Higher collections could be achieved by raising premiums for all enrollees, regardless of their circumstances. But such a rise could impose financial hardship on lower-income enrollees who are not eligible for Medicaid, and it would increase Medicaid costs for Medicare enrollees who were also receiving Medicaid benefits.

One alternative would vary the amounts collected from enrollees on the basis of their financial resources. For example, the current flat premium might be replaced with a sliding-scale premium that would collect an average of 50 percent of Medicare's costs, but the value of which would vary directly with enrollees' in

Table 14.
Medicare Enrollment and Spending Projected to 2070, Assuming Collections from Enrollees Are Increased to Cover 50 Percent of All Medicare Costs by 2010 (In percent)

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of	
					Medicare Spending	Enrollee Income[a]
1996	13.7	2.7	0.3	2.4	9.4	3.0
2010	15.2	4.4	2.2	2.2	50.0	23.2
2030	21.9	7.4	3.7	3.7	50.0	27.2
2050	23.0	8.1	4.1	4.1	50.0	28.4
2070	24.6	8.8	4.4	4.4	50.0	29.0

SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTE: GDP = gross domestic product.

a. The average income of enrollees is assumed to increase at the same rate as GDP per capita.

come. It might be set at zero or nominal amounts for enrollees with the lowest income, at 100 percent of Medicare's insurance value for those with income above a certain high threshold, and at intermediate amounts for middle-income enrollees. That approach would collect larger amounts from enrollees who could afford to pay more and could eliminate premium costs for the enrollees with the lowest income. Hence, it would incorporate into Medicare's structure part of the subsidy for low-income enrollees that Medicaid now provides. However, it would also increase implicit marginal tax rates for Medicare enrollees.

Such an approach would keep net spending within the limits specified, but only by shifting more costs to enrollees and only if growth in health care costs slowed after 2005, as assumed by the trustees, It would do little or nothing to induce slower growth, however. The premiums that Medicare enrollees now pay are an average of about 3 percent of their per capita income. Under this approach, Medicare's premiums would consume 25 percent to 30 percent of enrollees' income each year after 2015. Those costs for Medicare enrollees could be reduced only by spreading them over a larger (non-Medicare) population or slowing the growth in health care costs by more than the trustees assumed.

The option would increase spending for Medicaid because Medicaid pays the Medicare premium for some low-income Medicare beneficiaries. The resulting increase in federal spending for Medicaid (which is about 57 percent of total Medicaid spending) would raise net federal spending by only 0.04 percent of GDP in 2000; that share would climb to 0.36 percent of GDP by 2070.

Slow the Growth in Medicare's Spending per Enrollee. The growth in Medicare spending might be slowed, at least temporarily, by any of three general approaches. One that has been used extensively in the past decade would reduce the rates paid to Medicare providers. Another—and one that has not been used much—would increase the cost-sharing amounts that beneficiaries must pay. A third, which was the focal point of some Medicare proposals in the last Congress, would restructure the Medicare market to give patients and providers greater incentives to make cost-effective health care choices.

Reducing payment rates is the first approach. Rates for Medicare's fee-for-service providers normally increase each year in line with indexes of costs developed by the Health Care Financing Administration. If the Congress elects to update rates by less than increases in the relevant cost indexes, payment rates would be lower than those that Medicare would have paid if the Congress had not acted. Typically, however, not all of the potential savings to Medicare from lower payment rates are realized because providers are able to offset part of their potential loss in receipts from Medicare by increasing the volume of services for which they bill. Nevertheless, reducing payment rates can lower both federal and total health care costs for Medicare because providers are generally unable to offset all of their potential loss in receipts, at least from Medicare patients alone. If lower payment rates cut Medicare's fee-for-service costs, payment rates to HMOs would also be reduced under current law because those rates are based on Medicare spending per enrollee in the fee-for-service sector.

One undesirable aspect of cutting payment rates is that some providers may try to maintain revenues by shifting costs to other payers, although their ability to do so is lessening as private insurers adopt more aggressive rate-setting policies of their own. The access to care for Medicare enrollees could be threatened if the program's rates fell too far below those paid by other insurers. However, few people seem to have had trouble obtaining care so far, even though current estimates indicate that Medicare pays only 70 percent to 80 percent of the average rates that private insurers pay to hospitals and physicians.

Another undesirable aspect is that regulatory price setting often results in inappropriate, and therefore inefficient, prices—either lower or higher than necessary to generate adequate response from providers. Problems with access to care for beneficiaries would soon alert Medicare if its payment rates were too low, but there is no comparable mechanism to alert Medicare when its payment rates are higher than necessary. In some geographic areas and for some services (durable medical equipment, for example), Medicare's current payment rates may be higher than market-based rates. Demonstration studies are planned to assess the feasibility of and potential savings from using competitive bidding to set some of Medicare's payment rates.

Increasing cost-sharing requirements would reduce federal spending for Medicare, but the reduction would be achieved by shifting costs to enrollees without necessarily affecting total costs. Although cost-sharing requirements can, in principle, make enrollees more prudent consumers of health care, that effect is in fact weak in the Medicare program because most enrollees have supplementary coverage.

About 15 percent of Medicare beneficiaries also receive Medicaid benefits, which pay all of their cost-sharing liabilities under Medicare. Another 70 percent have medigap, an HMO supplement, or non-HMO employment-based coverage. Medigap plans and HMOs typically cover all or most of Medicare's cost-sharing requirements. The only common exclusion (affecting about 40 percent of people with medigap coverage) is the $100 deductible for Supplementary Medical Insurance. Those people who have employment-based plans generally pay the cost-sharing requirements of their private plan or Medicare, whichever is lower. Except for the deductible amount, which is generally higher than $100, employment-based plans typically have lower cost-sharing requirements than does Medicare.

Thus, only an increase in the SMI deductible amount would be likely to reduce use of services by people who have private insurance supplements. No change in Medicare's cost-sharing requirements would affect the use of services by those who also have Medicaid benefits. But any increase in cost-sharing requirements would reduce use of services by the 15 percent of enrollees who have no supplement.

To illustrate the way in which supplementary coverage negates the effects of Medicare's cost-sharing requirements on use of services, consider the following example: increasing the SMI deductible amount to $1,000 a year would reduce federal spending for Medicare by an estimated 9 percent for 1997, but total costs would drop by less than 1 percent given current patterns of supplementary coverage. Thus, most of the effect is a shift of costs from Medicare to enrollees, with very little reduction in use of services. By contrast, if current requirements for medigap plans were changed so that they could only cap the liabilities of enrollees for cost sharing under Medicare at $1,000 a year, rather than covering them all, both federal and total costs for Medicare would fall by about 3 percent, caused entirely by a reduction in the use of services.[13]

Restructuring the Medicare market would, in one approach, involve setting up a system of competing health care plans in which Medicare's fee-for-service sector might be just one of possibly several fee-for-service options. In that restructured market, all plans would offer at least a specified basic-benefit package. Plans could offer optional supplements to their basic package, but no plan could offer supplements to another plan's basic package. Without that restriction, plans could offer supplemental coverage only, as medigap plans do now. But medigap insurers do not bear the full costs of the coverage they offer. Most of the costs of the additional services that people with medigap coverage use are actually imposed on Medicare—the insurer providing coverage for the basic-benefit package. By permitting supplemental coverage only when it is linked to a basic-benefit package offered by the same insurer, all of the costs generated by medigap plans under current law would be internalized —that is, borne by the medigap insurer.

Thus, if insurers that were currently offering medigap plans wanted to continue to serve the Medicare market, they would have to offer full coverage for Medicare's basic package along with their supplemental benefits on the same basis as all other plans serving the Medicare market. Under current law, the constraints imposed on HMOs and medigap plans differ significantly, though both supplement the basic Medicare benefit package. For example, HMOs must offer community-rated premiums to all Medicare enrollees and may impose no exclusions on coverage for preexisting conditions. Medigap plans may rate their premiums on the basis of age, base premiums on risk status for those who enroll after the first six months of Medicare eligibility, and impose a six-month exclusion on coverage for preexisting conditions.

13. Medigap coverage increases enrollees' use of services by an estimated 24 percent. See S. Christensen and others, "Acute Health Care Costs for the Aged Medicare Population: Overview and Policy Options," *The Milbank Quarterly*, vol. 65, no. 3 (1987). See also Physician Payment Review Commission, *Annual Report to Congress* (1996), Chapter 16.

Enrollees could choose the benefit and premium package they preferred from the menu of plans available in their area during an annual open-enrollment period. Medicare would contribute a fixed amount per enrollee toward the premiums charged by plans. Actual payments from Medicare to the plans would have to be adjusted for risk to discourage competition based on the characteristics of enrollees rather than price and quality. From the enrollees' perspective, however, Medicare's contribution toward their premiums would be uniform as long as plans were required to set community-rated premiums, as they are under current law.

Enrollees would be responsible for any excess premium amounts or would receive rebates for plans costing less than Medicare's contribution. Thus, Medicare's method of contribution to the costs of their health plan would give enrollees financial incentives to be prudent purchasers of plans. Moreover, the comparative information provided during the open-enrollment period would enable them to select the lowest-cost plan that would meet their needs. Because plans would be at risk for any costs above their predetermined premium collections, they would have financial incentives to limit unnecessary services, either through provider controls or cost-sharing requirements on beneficiaries.

Medicare's contribution could be set in one of two ways: to equal the premium charged by the lowest-cost basic-benefit plan in each area, or to equal some value set independently of the actual costs of the plans. In the former case, Medicare would continue to guarantee a defined benefit, and taxpayers would bear the financial risk if health care costs increased more rapidly than expected. In the latter case, Medicare would offer only a defined contribution, with no assurance that the contribution would be sufficient to purchase the basic-benefit package.

Medicare could be certain of controlling its costs only under the defined contribution approach, which would shift the financial risks from higher growth in health care costs to plans, and ultimately to enrollees through premiums. Either approach would make both enrollees and providers more prudent in their use of health care services. Supplemental premiums would be higher for Medicare beneficiaries who chose to remain in loosely managed plans compared with those in tightly managed plans, thereby accelerating the movement of enrollees to HMOs that is already occurring.

Medicare's fee-for-service plan would have to become more efficient to keep its supplemental premium at a competitive level. Furthermore, gains in efficiency would have to be large enough to offset any loss in the substantial leverage that Medicare currently has in setting providers' fees. Medicare's leverage would weaken as its fee-for-service enrollment fell as a share of the patient population in an area.

Given a coordinated open-enrollment period and the new pricing system, competition among plans for enrollment would intensify. If methods for risk-adjusting payments among plans were adequate, competition would be focused on providing services more efficiently rather than on enrolling low-cost beneficiaries. Consequently, growth in both federal and total costs per enrollee might be slowed compared with growth under current law.

For example, Medicare's defined contribution could be set to equal net spending per enrollee in 2000 (adjusted for geographic differences in costs), and increased by specified percentages in later years that might be lower than the growth in health care costs. A delay of a few years would probably be necessary to give Medicare time to transform its fee-for-service sector into a health care plan capable of competing with other risk-based plans serving Medicare enrollees. Some lead time would also be necessary before a coordinated open-enrollment period could be put into effect.

The savings potential of this approach could be increased gradually. In this illustrative option, federal savings through 2000 would be generated by keeping the SMI premium at 25 percent of SMI costs, rather than letting it drop after 1998 as under current law. The amount of Medicare's contribution in 2000 to the health plan premiums of enrollees would then be increased by 6.0 percent a year through 2005, 5.0 percent a year through 2010, and 4.2 percent a year thereafter.

Although the effects of this defined contribution approach on federal costs can be predicted with some certainty, its effects on total costs for the basic-benefit package—and therefore on the costs that enrollees

would bear—is uncertain. If the average rate of growth in total costs per enrollee slowed only to the rate assumed by the trustees in their long-term projections, the premiums of enrollees as a percentage of their average income would increase from 3 percent in 1996 to about 37 percent in 2070 (see Table 15). However, some plans in each area would probably endeavor to offer the basic-benefit package for premiums equal to Medicare's defined contribution so that there would be no supplemental premium to collect. Enrollees in those plans would be liable only to Medicare for the basic premium equal to 25 percent of SMI costs, or less than 10 percent of total Medicare costs. In that case, the premiums of enrollees would fall over time as a share of income to about 2 percent.

If through increased efficiency some plans were able to reduce the rate of growth in total costs per enrollee to the 4.2 percent annual increase in Medicare's defined contribution, those plans would probably dominate the Medicare market. If improvements in efficiency did not cut costs sufficiently, so that low-cost plans had to restrict access or reduce the quality of their services, a two-tier Medicare market would probably develop. Lower-income enrollees would tend to choose the low-cost plans in which access and quality were poor, whereas higher-income enrollees would be more likely to opt for more expensive plans with less severe restrictions.

The effects of this option on spending for Medicaid would depend on the extent to which it slowed the growth in total Medicare costs and on whether Medicaid limited the choice of plans for dually eligible Medicare beneficiaries. If growth slowed to match the growth in the defined contribution, then spending for Medicaid would fall because the dollar value of Medicare's cost-sharing requirements would drop substan-

Table 15.
Medicare Enrollment and Spending Projected to 2070, Assuming an Annual Increase of 4.2 Percent in Medicare's Defined Contribution After 2010 (In percent)

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of Medicare Spending	Premiums as a Percentage of Enrollee Income[a]
Assuming Average Growth in Costs per Enrollee Is 5.4 Percent a Year After 2010						
1996	13.7	2.7	0.3	2.4	9.4	3.0
2010	15.2	4.4	1.1	3.3	25.8	12.0
2030	21.9	7.4	3.3	4.1	44.1	24.0
2050	23.0	8.1	4.5	3.6	55.5	31.6
2070	24.6	8.8	5.6	3.2	63.2	36.6
Assuming Average Growth in Costs per Enrollee Is 4.2 Percent a Year After 2010						
1996	13.7	2.7	0.3	2.4	9.4	3.0
2010	15.2	3.6	0.3	3.3	9.4	3.6
2030	21.9	4.6	0.4	4.1	9.4	3.2
2050	23.0	4.0	0.4	3.6	9.4	2.6
2070	24.6	3.6	0.3	3.2	9.4	2.2

SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTES: Medicare's per-enrollee contribution in 2000 is set at total per capita Medicare costs minus 25 percent of costs for Supplementary Medical Insurance. The per-enrollee contribution for 2000 is increased by 6.0 percent a year through 2005, 5.0 percent a year through 2010, and 4.2 percent a year thereafter.

GDP = gross domestic product.

a. The average income of enrollees is assumed to increase at the same rate as GDP per capita.

tially, while premiums would increase only slightly compared with current law. If the growth in total Medicare costs exceeded growth in the defined contribution, spending for Medicaid would probably increase as a result of higher premium costs—assuming that dually eligible beneficiaries were free to choose any plan they wanted. If, instead, Medicaid assigned dually eligible beneficiaries to the lowest-cost plans, then spending for Medicaid would probably fall. No estimate of the effects on Medicaid spending were made because of that uncertainty, although it appears that spending would be more likely to fall than to increase.

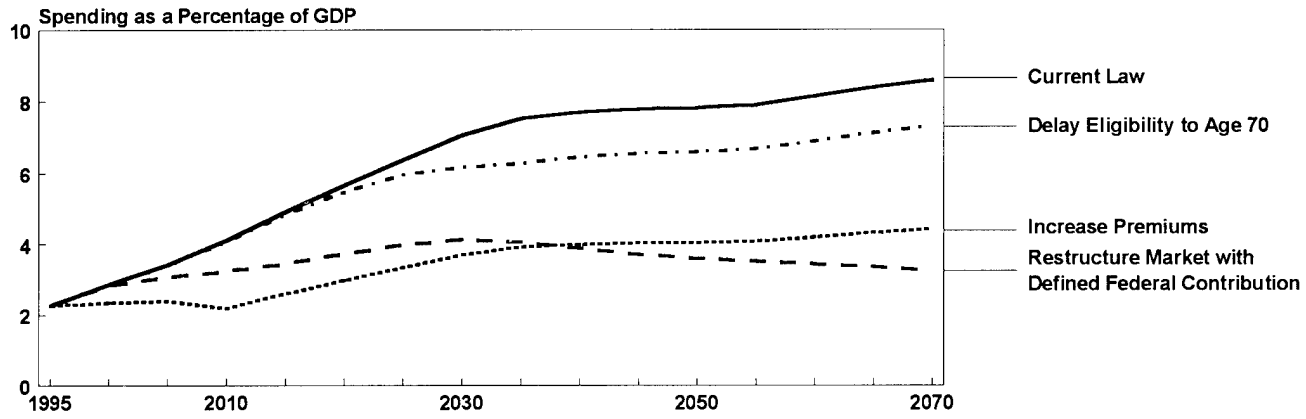
Conclusions About Medicare

The effects of the three general approaches discussed above are compared below under the assumption that average annual growth in Medicare spending per enrollee will gradually slow between 2005 and 2020 as assumed by Medicare's trustees in their 1996 report. Keep in mind, however, that only the third approach would put into effect policies specifically intended to achieve slower growth in total costs per enrollee. The first approach would reduce federal spending by reducing enrollment, with no significant effect on growth in costs per enrollee. The second approach would reduce net federal spending, but not total costs, by increasing premiums paid by enrollees without fundamentally changing the Medicare market.

The first approach would reduce total enrollment in Medicare by delaying the age of eligibility to 70, phased in from 2003 through 2032. Compared with current law, that change would reduce Medicare net spending by about 13 percent in 2030 and by 15 percent in 2070 (see Figure 9). Nevertheless, net spending would exceed the target—4.1 percent of GDP—every year after 2010 by generally increasing amounts. The premiums of enrollees would be unaffected under current law because after 1998 they would be indexed to the cost-of-living adjustment for Social Security benefits (see Figure 10).

The second approach would increase enrollees' premiums to cover 50 percent of total Medicare spending by 2010, thereby reducing net Medicare spending by nearly 50 percent every year thereafter. There would be little or no effect, however, on growth in total costs for Medicare. Although enrollees' premiums are currently only 3 percent of their average income, under this plan premiums would rise to nearly 30 percent of the average income of enrollees by 2030, remaining around that level thereafter. Unless the premium was related to income, it would equal or exceed income for low-income enrollees not receiving Medicaid benefits.

Figure 9.
Net Medicare Spending as a Percentage of GDP Under Alternative Options



SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTES: GDP = gross domestic product. Data are plotted at five-year intervals.

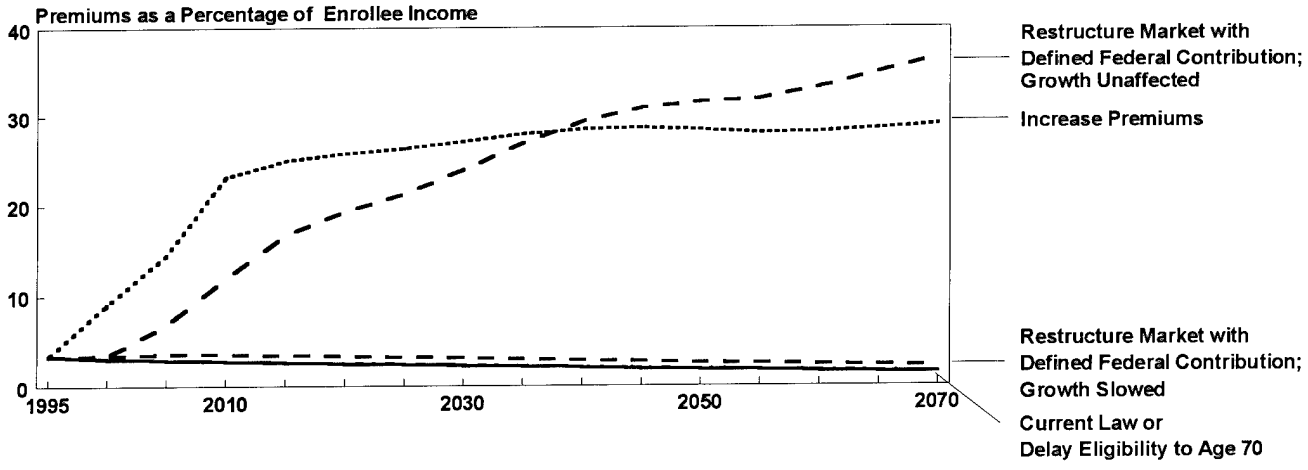
The third approach would restructure the Medicare market, making its fee-for-service sector one of a number of competing plans serving enrollees. Enrollees would receive a fixed federal contribution toward the premium costs of the plan they selected and would pay any excess premium costs out of pocket. Medicare's defined contribution would be set equal to net spending per enrollee in 2000, increased by 6.0 percent a year through 2005, 5.0 percent a year through 2010, and 4.2 percent a year thereafter. That plan would establish control over federal spending for Medicare on a per-enrollee basis and would keep net federal spending for Medicare at or below 4.1 percent of GDP. Compared with current law, net Medicare spending would be reduced by 42 percent in 2030 and by 62 percent in 2070. Although the federal subsidy per enrollee would be smaller than it would be under current law, competition among plans and providers could spur efficiency and increase real health benefits for each dollar spent.

The effect of the third approach on enrollees is uncertain, however. If the incentives that the approach would generate for more cost-conscious behavior reduced annual growth in total costs per enrollee only to the rate assumed by Medicare's trustees for their long-term projections, premiums paid by enrollees would steadily increase, reaching 24 percent of their average income by 2030 and 37 percent by 2070. If, instead, growth in costs per enrollee slowed to match annual growth in the federal defined contribution (4.2 percent), premiums would be only 2.2 percent of average income in 2070.

In practice, the effects of the third approach may differ among various groups of enrollees. Some basic plans might keep their costs low enough to avoid having to charge a supplemental premium, but the access and quality of services available in those plans might limit their appeal primarily to low-income enrollees. Higher-income enrollees might gravitate instead to plans that charged supplemental premiums and provided better access and quality.

The approaches discussed above are not necessarily mutually exclusive. For example, by both delaying the age of eligibility and introducing a defined federal contribution, growth in the federal contribution might be set somewhat higher than 4.2 percent a year after 2010, while still keeping net Medicare spending at or below 4.1 percent of GDP. The one certainty is that Medicare will come to consume a significant share of GDP unless major changes are made in the program.

Figure 10.
Premiums as a Percentage of Enrollee Income Under Alternative Options



SOURCE: Congressional Budget Office based on the Medicare trustees' reports for 1996.

NOTE: Data are plotted at five-year intervals.

Chapter Three

The Long-Term Budgetary Impact of Controlling the Growth of Social Security and Medicare

What would be the long-term economic and budgetary impact of trying the approaches for controlling the growth of outlays for Social Security and Medicare discussed in the previous chapter? Addressing that question requires going beyond projecting outlays for those individual programs. One must also consider how those policies would affect the budget as a whole and the economy. One effect that must be considered is interest on the debt: because the options would reduce the deficit, they would lower the costs of servicing the nation's debt, which would further improve the long-run outlook. Another effect arises because some of the options would affect spending on other programs, such as Medicaid. All of those effects must be analyzed together when assessing the long-run impacts of the various options.

The Congressional Budget Office estimates that many of the options presented in the previous chapter would significantly reduce the long-term imbalance in the budget. Moreover, although none would fully solve the long-term deficit problem by itself, much of the remaining imbalance could be eliminated by policies that balanced the budget by 2002. Compared with current policy, those alternative policies would greatly reduce the economic risk of unsustainable deficits and significantly enhance the economic prospects for future generations.

But neither balancing the budget in the short term nor slowing the growth in spending for Social Security and Medicare in the long term would be easy to achieve. Indeed, slowing the growth in spending for those programs would be especially difficult in light of the huge increase in the number of people who will become eligible for those programs when the baby boomers retire. Large reductions in the growth of Social Security benefits and major changes in the Medicare program could adversely affect future retired and disabled workers, their families, and their survivors. Easing those burdens, however, would require making more severe cuts in other federal spending or raising taxes.

The Effects of Individual Options on the Long-Term Budgetary Outlook

The long-term budgetary benefit of any option obviously depends on the details of the proposal, but two general lessons about designing policy emerge from CBO's analysis. First, policy options that begin to provide substantial savings in the early years would reduce

the long-term imbalances more than those that make their savings later. Second, the budgetary pressures from Medicare are much more significant than those from Social Security. Indeed, controlling the growth of Medicare after 2010 would produce twice as much saving as limiting the growth of Social Security after 2010.

In conducting its analysis, CBO examined the effects of the policy options using the summary measure of budgetary imbalance described in Chapter 1. That measure is based on the amount that taxes would have to be permanently raised to ensure that federal debt was at or below its current percentage of gross domestic product for the foreseeable future. The larger the imbalance in the budget, the more taxes would have to be raised. The tax increase would initially create a large budget surplus and cause the debt to decline. However, after the baby boomers began to retire, the budget would move back into deficit, and the debt would climb once again. The tax increase would be sufficient to keep the debt at or below 50 percent of GDP from 1997 through 2070.[1] Of course, measuring the imbalance in terms of a tax increase is not the only way to describe the size of the long-term problem; expressing it in terms of a spending cut is another.

The options could also be evaluated by examining long-term projections of the level of the deficit, but those projections can be harder to interpret than a summary measure. For example, how should one compare two options that produce different paths for reducing the deficit over time? The answer to that question is not clear. Furthermore, the deficit would eventually reach unsustainable levels under any option that does not fully eliminate the long-term imbalance. (Because interest costs compound, even a small imbalance in the budget will eventually be amplified into a large deficit.) Thus, comparing the effectiveness of different options for resolving those imbalances can be difficult. By contrast, CBO's summary measure effectively puts all of the policies in the same time dimension by estimating how much taxes would have to be raised today to resolve the imbalance.

1. That approach differs from permanently balancing the budget or keeping the deficit as a steady share of GDP. Those approaches involve tax increases or spending cuts that rise as the baby boomers retire.

CBO's summary measure is purely hypothetical, however. Suddenly raising taxes or cutting spending by such magnitudes would neither be practical nor desirable. Indeed, such actions could push the economy into a recession. Moreover, abrupt policy changes would not give people sufficient time to adjust their saving and retirement plans in ways that could ease the transition to a sustainable policy. Nonetheless, the measure provides a convenient way to gauge the size of the long-term problem and to compare alternative policies for resolving it.

CBO estimates that the long-term imbalance under current policy is about 4 percent of GDP. Because federal revenues are currently 20 percent of GDP, the imbalance represents about 20 percent of total federal receipts. Like CBO's long-term projections, those estimates are inherently uncertain. They depend on many assumptions about the course of future events. Moreover, they do not account for how changes in policy could affect incentives to work and save. For those reasons, CBO's estimates should be viewed not as precise measures but as rough guides.

Social Security Options

Chapter 2 examined three specific policy options for controlling the growth of spending for Social Security and compared them with an illustrative goal of preventing outlays for Social Security in the long run from exceeding their share of GDP in 2010. CBO finds that constraining Social Security to meet that illustrative goal would reduce the long-term imbalance in the federal budget by 1.1 percent of GDP and thus eliminate about one-quarter of the long-term budget problem (see Table 16). One of the options would achieve that goal by itself; the others would fall short.

The first policy option considered in Chapter 2 would reduce the initial benefits received by each successive cohort of workers by 1 percent a year, starting in 1998 and ending in 2032. By 2032, initial benefits would be reduced by 30 percent below the levels that current law would provide. CBO's simulations suggest that this option would reduce the long-term imbalance in the budget by 1.1 percent of GDP. The option would roughly achieve the illustrative goal.

The second option would increase the age at which a worker would become eligible for full retirement benefits—the "normal retirement age." In the near term, it would accelerate the increase in the normal retirement age so that it would reach age 67 for workers who are age 62 in 2011; after 2011, the option would increase the retirement age by two months a year until it reaches age 70 in 2029. After 2029, the normal retirement age would continue to rise by one month every other year, reflecting projected increases in longevity. This option would reduce the long-term imbalance by 0.6 percent of GDP.

The third option would reduce the cost-of-living adjustment for Social Security benefits so that monthly benefits would rise with the growth of the consumer price index less 1 percentage point. CBO estimates that this option would reduce the long-term imbalance by 0.6 percent of GDP. Because the options focus on Social Security, the third option does not reduce the COLA for outlays other than Social Security, nor does it affect current rules for adjusting personal exemptions and standard deductions in the federal income tax code. Reducing the inflation adjustment for other federal spending and the tax code would further improve the long-term outlook.

Medicare Options

Chapter 2 presented three specific options for controlling the growth of Medicare and also compared them against an illustrative goal. Meeting the illustrative goal would produce large economic benefits. CBO's analysis shows that preventing outlays for Medicare in the long run from exceeding their share in 2010 would reduce the imbalance by about 2.2 percent of GDP and eliminate half of the long-term imbalance in the budget (see Table 17). Two of the policies would achieve that goal.

The first policy option is to increase the age at which people are eligible to enroll in the program, following a similar path over time as the second option presented above for Social Security. CBO estimates that this option would reduce the long-term imbalance by 0.7 percent of GDP.

The second option is to increase the share of Medicare's costs that are paid by enrollees' premiums to 50 percent of total costs. CBO estimates that the second option would reduce the long-term imbalance by 2.5 percent of GDP.

Table 16.
The Long-Term Budgetary Imbalance Under Various Options for Social Security (As a percentage of GDP)

		Policy Options		
	Illustrative Goal[a]	Reduce the Initial Benefits	Raise the Retirement Age	Reduce COLA
Imbalance in Base Scenario	4.1	4.1	4.1	4.1
Less: Effect of Policy Option	1.1	1.1	0.6	0.6
Remaining Imbalance	3.0	3.0	3.5	3.5

SOURCE: Congressional Budget Office.

NOTES: The long-term imbalance is measured as the size of the tax increase that would be needed to keep the debt at or below the current percentage of gross domestic product from 1997 through 2070.

GDP = gross domestic product; COLA = cost-of-living adjustment.

a. Outlays for Social Security are constrained not to exceed their share of GDP in 2010.

Table 17.
The Long-Term Budgetary Imbalance Under Various Options for Medicare (As a percentage of GDP)

		Policy Options		
	Illustrative Goal[a]	Raise the Age for Eligibility	Increase Premiums	Restructure Medicare and Slow its Growth
Imbalance in Base Scenario	4.1	4.1	4.1	4.1
Less: Effect of Policy Option	2.2	0.7	2.5	2.6
Remaining Imbalance	1.9	3.4	1.6	1.5

SOURCE: Congressional Budget Office.

NOTES: The long-term imbalance is measured as the size of the tax increase that would be needed to keep the debt at or below the current percentage of gross domestic product from 1997 through 2070.

GDP = gross domestic product.

a. Outlays for Medicare are constrained not to exceed their share of GDP in 2010.

That option would also increase outlays for Medicaid—an effect that is incorporated in CBO's numbers. Because Medicaid pays the premium for qualified low-income people enrolled in the Medicare program, some of the costs for those enrollees would be shifted from Medicare to Medicaid.

The third option is to restructure the Medicare program by setting up a system of competing health plans —of which Medicare's fee-for-service sector could be one—and limiting the growth in the amount that the federal government contributes to the premiums of enrollees. CBO estimates that this option would reduce the long-term imbalance by 2.6 percent of GDP.

The Effects of Various Policy Packages on the Long-Term Outlook

CBO considered three policy packages containing various combinations of the above options. The packages are not intended to cover the full range of possibilities; they merely illustrate some of the possible combinations. The packages are:

- Raise both the normal retirement age for Social Security and the eligibility age for Medicare;
- Raise the normal retirement age for Social Security and the eligibility age for Medicare, and set the cost-of-living adjustment for Social Security benefits to the growth of the CPI less 1 percentage point; and
- Reduce initial Social Security benefits by 30 percent and restructure the Medicare program, while slowing the growth of federal contributions.

The three packages reduce the long-term imbalance in the budget by 1.2 percent to 3.5 percent of GDP (see Table 18). Reducing initial Social Security benefits and restructuring the Medicare program while slowing its growth has the largest impact; raising the normal retirement age for Social Security and the eligibility age for Medicare has the smallest.

None of the packages would completely eliminate the long-term imbalance in the budget, although reducing initial Social Security benefits and restructuring the Medicare program would come close. The remaining imbalances under that package could be fully eliminated by combining the option with an effort to balance the budget by 2002. That simulation assumes that the

Table 18.
The Long-Term Budgetary Imbalance Under Various Policy Packages (As a percentage of GDP)

		Policy Options		
	Illustrative Goal[a]	Raise the Age for Retirement and Eligibility	Raise the Age for Retirement and Eligibility; Reduce COLA	Reduce Initial SS Benefits; Restructure Medicare and Slow its Growth
Imbalance in Base Scenario	4.1	4.1	4.1	4.1
Less: Effect of Long-Term Option	3.1	1.2	1.7	3.5
Less: Effect of Balancing Budget[b]	1.3	1.6	1.6	0.6
Remaining Imbalance	c	1.3	0.8	0

SOURCE: Congressional Budget Office.

NOTES: The long-term imbalance is measured as the size of the tax increase that would be needed to keep the debt at or below the current percentage of gross domestic product from 1997 through 2070.

GDP = gross domestic product; COLA = cost of living adjustment; SS = Social Security.

a. Outlays for both Social Security and Medicare are constrained not to exceed their share of GDP in 2010.

b. The budget is assumed to be balanced by 2002 and kept in balance from 2003 through 2007. The effect of balancing the budget varies among the packages because of interactions between the long-term options and balancing the budget. Some of the long-term options produce near-term savings, whereas balancing the budget produces some long-term savings.

c. Less than zero.

budget would be balanced by 2002—and would be kept in balance from 2003 to 2007—with reductions from baseline spending for Medicare, discretionary spending, and Medicaid (see page 22 in Chapter 1 for details). The estimates also reflect potential interactions among the policies. Some of the long-term options provide near-term budget savings, and balancing the budget with reductions in the level of spending for Medicare and Medicaid provides some long-run gains.

Conclusion

Balancing the budget by 2002 by reducing the level of spending would provide significant long-run benefits, but the simulations in Chapter 1 show that it would leave more than half of the long-run deficit problem unresolved. For that reason, CBO examined a wide range of long-run options for controlling the growth of the federal government's two major entitlement programs: Social Security and Medicare. Many of those options would significantly reduce the long-term imbalance in the budget. Moreover, at least one combination of policies—namely, reducing initial Social Security benefits by 30 percent, restructuring the Medicare program, and balancing the budget—would fully resolve the long-run problem. Eliminating those budgetary imbalances would provide generous economic benefits to the nation.

However, efforts to control spending for Social Security and Medicare could pose hardships for people who rely heavily on those programs to meet their needs. Those burdens could be reduced, but doing so would require making larger reductions in the growth rate of spending for other government programs or imposing higher taxes. Indeed, none of the solutions to the nation's long-term problems will be easy. All will require some type of sacrifice. But ignoring those problems is not a viable option.